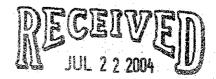


STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99352 • (509) 372-7950

July 19, 2004



EDMC

Mr. Joel B. Hebdon, Director Regulatory Compliance and Analysis Division United States Department of Energy P.O. Box 550, MSIN: A5-15 Richland, Washington 99352

Mr. Roy J. Schepens, Manager Office of River Protection United States Department of Energy P.O. Box 450, MSIN: H6-60 Richland, Washington 99352

Mr. Keith A. Klein, Manager Richland Operations Office United States Department of Energy P.O. Box 550, MSIN: A7-50 Richland, Washington 99352

Mr. Richard H. Gurske, Director Environmental Protection Fluor Hanford, Inc. P.O. Box 1000, MSIN: H8-12 Richland, Washington 99352 Mr. Thomas E. Logan, President Bechtel Hanford, Inc. 3070 George Washington Way Richland, Washington 99352

Mr. J.P. Henschel, Project Director Bechtel National, Inc. 2435 Stevens Center Place Richland, Washington 99352

Mr. Roby D. Enge, Director Environment, Safety, Health and Quality Pacific Northwest National Laboratory P.O. Box 999, MSIN: J2-38 Richland, Washington 99352

Ms. Susan J. Eberlein, Vice President Environmental, Safety, Health and Quality CH2M Hill Hanford Group, Inc. P.O. Box 1500, MSIN: H6-03 Richland, Washington 99352

Dear Ms. Eberlein and Messrs. Hebdon, Schepens, Klein, Gurske, Logan, Henschel, and Enge:

Re: Quarterly Notification of Class 1 Modifications to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion, (Quarter ending December 31, 2003-Permit Condition I.C.3)

Enclosed are the Modification Notification Forms indicating those modifications that the Washington State Department of Ecology (Ecology) has reviewed and approved or denied for the referenced quarterly Class 1 Modifications.

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The approved/denied quarterly modifications include:

1301-N Liquid Waste Disposal, Chapter 17 Attachment 41 & 1325-N Liquid Waste Disposal, Chapter 16 Attachment 41: All of the modifications are denied and you are required to resubmit individual chapters based on denial of combination of unit request. Request submittal of current Part V information.

1324-N Surface Impoundment, Chapter 18 Attachment 42: Hanford Facility RCRA Permit, V.18: Pending. Contingent on approval of Hanford Facility RCRA Permit, VI. 3 modification request.

1324-NA Percolation Pond, Chapter 19 Attachment 42: Hanford Facility RCRA Permit, VI.3: Pending. Contingent on approval of Hanford Facility RCRA Permit, VI. 3 modification request.

1324-N Surface Impoundment and 1324-NA Percolation Pond, Chapter 3, Attachment 42: All modifications are pending Ecology internal review. Approval of the Post-Closure Groundwater Monitoring Plan (PNNL 14354) is required prior to approval of move to Part VI of the HFSW Permit.

100-NR-1, Chapter 1, Attachment 47: Denied in entirety. Request submittal of 100-NR-1 and 2 Operable Units as currently documented in Part IV.

PUREX Storage Tunnels, Chapter 3, Attachment 28:

Hanford Facility RCRA Permit, III.3.A.: Denied. Retain chapters.

Chapter 1: Approved

Chapter 2:

Section 2.1: Approved

Section 2.1.1: Denied. Provide references (names too).

Section 2.1.2: Denied. Request following: "...to serve as shielding."

Chapter 3.0:

Section 3.0: Approved

Section 3.3: Denied. Request: Leave in "dangerous" WAP applies to all dangerous and mixed waste.

Section 3.3.2: Approved

Section 3.4: Approved

Section 3.5.1: Approved

Section 3.5.1.1: Approved

Section 3.5.1.2: Approved

Section 3.5.1.3: Approved

Section 3.5.1.4: Denied. Retain language.

Section 3.5.1.5: Denied. Request following: Leave in "criticality."

Page 3

Section 3.5.1.9: Approved

Section 3.5.2.3: Denied. Request "mixed waste contamination".

Section 3.6.1: Denied. Retain all references and change first document referenced to DOE/RL-

96-98 and retain or update second document to reflect more recent documents.

Section 3.7: Approved

Section 3.8.2: Denied. Ecology requests clarification of sentence structure in last paragraph, first sentence.

Section 3.10: Denied. Retain language and change first reference to: DOE/RL-96-98.

Table 3.1: Approved

Chapter 4.0:

Section 4.0: Approved

Section 4.1: Approved

Section 4.1.2.2: Approved

Section 4.1.2.4: Approved

Section 4.1.3: Approved

Section 4.1.4: Approved

Section 4.1.6: Approved

Section 4.1.6.2: Denied. Request following: "Exhaust air be sampled and analyzed for mixed waste particulates."

Section 4.2.1: Approved

Section 4.2.3: Approved

Section 4.2.4: Approved

Section 6.1 and 6.1.1.1: Denied. Contingent of approval of the GIP.

Section 6.1.1.2: Approved

Section 6.2.: Approved

Section 6.4.4.2: Denied. Insert "mixed waste".

Section 6.4.5: Denied. Correct references to this section on mod form "typo only",

(i.e. 6.5.4 to 6.4.5).

Section 7.1.5: Denied. Insert "mixed waste".

Section 7.4: Approved

Chapter 11.0:

Section 11.0: Denied. Contingent upon issuance of permit (Ecology wants issuance date).

Chapter 12: Denied. Retain chapter.

Chapter 13: Denied. Retain chapter.

Liquid Effluent Retention Facility and 200 Area ETF, Attachment 34

Hanford Facility RCRA Permit, Condition III.4: Denied. Retain chapters, delete

Amendment.

Chapter 1.0, Figures: Approved

Page 4

Chapter 3.0:

Section 3.1: Approved

Section 3.1.1: Approved

Section 3.1.2: Approved

Section 3.2.1.2: Approved

Section 3.2.2.1: Approved

Section 3.2.2.2.1: Approved

Table 3.2: Approved

Section 3.3.1: Approved

Section 3.4.2: Approved

Table 3.3: Approved

Table 3.4: Approved

Section 3.6.1.1: Denied. Retain "mixed".

Section 3.6.1.3: Denied. Request following language, "When mixed waste exposures...etc."

Section 3.6.3: Approved

Table 3.6: Approved

Figures: Approved

Chapter 4.0:

Section 4.0: Approved

Section 4.2.3: Approved

Section 4.2.4: Approved

Section 4.2.5.2: Approved

Section 4.4.1: Approved

Section 4.4.4.1.2: Approved

Section 4.5.5.2: Approved

Section 4.6.1: Approved

Section 4.6.3.2: Approved

Chapter 4.0, Figures: Approved

Chapter 6.0:

Section 6.1, and 6.1.1.1: Denied. Remove reference to section.

Section 6.1.1.2: Approved. Spelling previously denied, corrected; later approved with fast-track.

Chapter 7.0:

Section 7.3.2.4: Approved

Section 7.3.2.5: Denied. Request following language: "Where information regarding treatment, management, and disposal of the radioactive source, byproduct material and/or special nuclear components of mixed waste (as defined by the Atomic Energy Act of 1954, as amended) has been incorporated into this permit, it is not incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit modification or chapter 70.105 RCW."

Section 7.4.3: Approved

Section 7.4.4: Denied. Request following language: "...required for ALARA protection levels."

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Chapter 11.0:

Section11.2.4: Denied. Cite regulation for Model Toxic Control Act (MTCA) standards.

Section11.3.4.1: Approved

Section11.3.4.3: Approved

Section11.3.4.5: Approved

Section11.3.4.6: Approved

Chapter 12.0:

Section12.0: Denied. Retain Chapter.

Chapter 13.0:

Section13.0: Denied. Retain Chapter.

242-A Evaporator, Attachment 35

Hanford Facility RCRA Permit, III.5: Denied. Retain chapters, delete amendment.

Chapter 1.0:

Section 1.0: Approved

Chapter 1.0, Figures: Approved

Chapter 1.0, Figures: Approved

Chapter 2.0:

Section 2.0: Denied. Request you cite Washington Administrative Code (WAC) 173-303.

Ecology does not recognize publication #95-402 as a legal document, but rather guidance only.

Chapter 3.0:

Section 3.1: Approved

Chapter 3.0, Figure 3.1: Accepted

Chapter 4.0:

Section 4.0: Accepted

Section 4.1.2: Approved

Section 4.1.3.1: Approved

Section 4.1.3.1: Approved

Section 4.1.6.1: Approved

Section 4.1.6.2; Approved

Section 4.1.6.2.3: Approved

Section 4.1.4.2.4: Approved

Section 4.1.6.2.5: Approved

Section 4.1.6.3: Approved

Section 4.1.7: Approved

Section 4.1.9: Approved

Section 4.1.12: Denied. Retain all language.

Section 4.2.1: Approved

Figure 4.1: Approved

Figure 4.4: Approved

Figure 4.6: Approved

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Chapter 6.0:

Section 6.1: Denied. Remove, refer to section.

Section 6.2.2.2: Approved

Chapter 7.0: Approved

Chapter 11.0:

Section 11.1: Approved

Section 11.3.4: Approved

Chapter 12.0: Denied. Retain.

Chapter 13.0: Denied. Retain.

325 HWTU, Attachment 36

Hanford Facility RCRA Permit, III.6.A: Denied. Remove added Amendment.

Chapter 3.0: Glossary: Approved

Section 3.0: Denied. Request following language: "Where information regarding treatment, management, and disposal of the radioactive source, byproduct material and/or special nuclear components of mixed waste (as defined by the Atomic Energy Act of 1954, as amended) has been incorporated into this permit, it is not incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit modification or chapter 70.105 RCW."

Section 3.1.4: Approved

Section 3.2: Approved

Section 3.3: Approved

Section 3.3: Denied. Request following language: "Where information regarding treatment, management, and disposal of the radioactive source, byproduct material and/or special nuclear components of mixed waste (as defined by the Atomic Energy Act of 1954, as amended) has been incorporated into this permit, it is not incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit modification or chapter 70.105 RCW."

Section 3.3.1: Approved

Section 3.3.5: Approved

Section 3.4.1.1: Denied. Retain language.

Section 3.4.2: Denied

Section 3.6.1: Approved

Chapter 3.0: Approved

Section 3.8.5: Denied. Retain reference as is. This includes denial of fast track mods.

Section 3.9: Denied

Figure 3.5: Approved

Figure 3.7: Approved

Chapter 4.0:

Section 4.1.1.2 Approved

Page 7

Section 4.1.2.1: Approved

Section 4.1.2.2: Approved

Section 4.1.7.2: Approved

Section 4.1.1.1.2: Approved

Section 4.2.1: Denied. Request following language for first sentence: "The SAL is an analytical chemistry laboratory used primarily to prepare and analyze samples (e.g., characterization, etc.)." This includes denial of fast-track mods.

Section 4.2.1.4: Approved

Section 4.2.1.5: Approved

Section 4.2.2.2.1: Approved

Section 4.2.2.4: Approved

Section 4.2.2.5: Approved

Chapter 6.0:

Section 6.1.1.1: Denied. Delete reference to section.

Section 6.3.1.1: Approved

Section 6.3.1.3: Approved

Section 6.4.1: Approved

Section 6.4.5: Denied. Retain (RWP).

Section 6.5.3: Approved

Chapter 7.0: Approved

Chapter 11.0

Section 11.1.3: Denied. Request following language: "The RLW system currently collects mixed waste from the SAL..." And the following: "The RLWT collects mixed waste from the SAL..."

Section 11.2.2: Approved

Section 11.2.3: Approved

Section 11.2.4: Approved

Section 11.2.5: Approved

Section 11.3.2: Approved

Section 11.3.3: Approved

Section 11.3.4: Approved

Section 11.4.1: Approved

Section 11.4.2: Approved

Section 11.4.4: Approved

Section 11.5: Approved

Section 11.6: Approved

Section 11.7: Approved

Table 11.1: Denied. Request following language: "Where information regarding treatment, management, and disposal of the radioactive source, byproduct material and/or special nuclear components of mixed waste (as defined by the Atomic Energy Act of 1954, as amended) has been incorporated into this permit, it is not

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incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit modification or chapter 70.105 RCW."

Chapter 12.0: Denied. Retain chapter. Chapter 13.0: Denied. Retain chapter.

305-B Storage Facility

Hanford Facility RCRA Permit, Condition III.2: Denied. Retain chapters, delete add amendment.

Chapter 2.0: Approved

Chapter 2.0, Section 2.2.1: Denied. Request latitude and longitude information.

Figure 2.3: Denied. Retain

Figure 2.5.1: Approved

Figure 2.5: Approved

Chapter 4.0: Approved

Section 4.1.1.6.12: Approved

Chapter 6.0: Section 6.3.1.1: Approved

Chapter 7.0: Approved

Section 7.3.2.4: Approved

Section 7.5: Approved

Chapter 11.0: Approved

Section 11.1.1: Approved

Section 11.4.1: Denied. Request cite following document: HNF-EP-0063 (Rev 10 or currently approved version).

Section 11.4.2: Approved

Section 11.4.2.1: Approved

Section 11.4.3: Approved

Chapter 11.0: Approved

Chapter 12.0: Denied. Retain chapter.

Chapter 13.0: Denied. Retain chapter.

Units not identified in this letter by acceptance or denial, are being held in pending contingent upon completion of actions agreed to in a separate meeting. These modifications will be addressed under separate cover at a later date.

Additionally, Ecology recognizes approval for Facility Class 1 Prime permit modifications to the Waste Treatment and Immobilization Plant portion of the Hanford Facility Resource Conservation and Recovery Act Permit, Part III, Chapter 10, Attachment 51 submitted October 17, 2003. This includes:

Waste Treatment and Immobilization Plant:

Appendix 1.0: Interim Compliance Schedule.

Again, the United States Department of Energy and contractor staff are encouraged to discuss proposed Class 1 changes with Ecology's unit managers to clarify any questions or concerns. If you have any questions or comments regarding this letter, please contact me at (509) 372-7894.

Sincerely, Lieta P. Davis

Greta P. Davis

Hanford Sitewide RCRA Permit Coordinator

Nuclear Waste Program

Enclosures JV:nc

cc w/enc:

Mike Hughes, BHI

Roger Landon, BHI Richard Gurske, FH Suzette Thompson, FH

Roby Enge, PNL
Alice Ikenberry, PNL
Stuart Harris, CTUIR
Pat Sobotta, NPT
Russell Jim, YN
Ken Niles, ODOE
Administrative Record
Environmental Portal

cc w/o enc:

Ro Vinson, PEC

Rick Gay, CTUIR Todd Martin, HAB

Hanford Facility RCRA Permit Modification Notification Forms

100-NR-1 Operable Unit Part IV, Chapter 1, Attachment 47

Quarter Ending December 31, 2003

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Page 2 of 5: Hanford Facility RCRA Permit IV.1

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Page 4 of 5: Chapter 2.0

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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 100-NR-1 Operable Unit Part IV, Chapter 1, Attachment 47 Description of Modification: Hanford Facility RCRA Permit IV.1: Streamlined Attachments 47 & 48 to contain enforceable sections identified below. **CHAPTER 1** 100-NR-1 Operable Unit The 100-NR-1 Operable Unit (OU) includes solid waste management units and one-time spill sites which are undergoing corrective action. As prescribed by Conditions II.Y of this Permit, this Chapter sets forth the corrective action requirements for the 100-NR-1 OU. The Permittees shall comply with all requirements set forth in Attachment 48, the Engineering E 100-N Area Ancillary Facilities and Integration Plan (EE/CA) (DOE/RL 97-22, Rev. 1) . : Enforceable portions of the EE/CA are listed below; all subsections, figures, and tables included in these portions are also enforceable, unless stated otherwise COMPLIANCE WITH APPROVED CORRECTIVE MEASURES STA The Permittees shall comply with all requirements set forth in Attachment \$47, the Corrective Measures Study (CMS) for the 100 NR 1 Operable Units, DOE/RL 95 111, Revision 0 including the admendments specified in Attachment 47. Enforceable portions for corrective action are in Attachment 47, and are identified as follows, of the CMS are listed below; aAll subsections, figures, and tables included in these portions are also enforceable, unless stated otherwise. ATTACHMENT 47: Chapter 1.0 Sectoion 7.0 Comparative Analysis of Remedial Chapter 2.0 Section 9.0 Selected Corrective Measures Section 9.1 RCRA Corrective Action Pe Corrective Measures for the WO NR-1 Operable Unit Source Sites Section 9.2 Section/9.2.1 Recommended Actions And Justifications Cleanup Standards for the 100 NR 1 Operable Unit Section Q.2.2 Cost Section 9.2 Section 9.2.4 Scheduld Praining Section 9.2.5 Chapter 3.0 Appendix A Applicable or Relevant and Appropriate Requirements Cost Estimates Appendix G COMPNIANCE WITH APPROVED ENGINEERING EVALUATION/COST ANALYSIS IV.1.B. The Permittees shall comply with all requirements set forth in Attachment 48, the Engineering Evaluation/Cost Analysis for the 100-N Area Ancillary Facilities and Integration Plan (EE/CA), DOE/RL-97-22, Rev. 1. Enforceable portions of the EE/CA are listed below; all subsections, figures, and tables included in these potions are also enforceable, unless stated otherwise: Section 2.2.1.5 Remedial Unit Five Description of the SWMU's Section 5.2 Compliance with ARARS Section 5.10 Other Considerations Recommended Alternative Section 6.0 Table 2-1 Suspected Contaminants in 100-N Area Ancillary Facilities Summary of Estimated Costs for Alternatives Two, Three, and Four Table 5-1 Integration Plan for Decontamination and Demolition and Remedial Action in the 100-N Area Appendix A Class 11 Class 2 Class 3 Modification Class/ Class 1 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes Reviewed by Ecology: Reviewed by Ecology: itled by **DD**E Program Office: 18184 Not applicable H. E. Bilson J. B. Price Date E. R. Skinnarland Date Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹I, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 100-NR-1 Operable Unit Part IV, Chapter 1, Attachment 47 Description of Modification: Chapter 1.0: Remove Section 7.0 and replace with the attached Chapter 1.0. Modification Class: 123 Class 11 Class 1 Class 2 Class.3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes Reviewed by Ecology: Reviewed by Ecology: Not applicable Date H. E. Bilson J. B. Price Date E. R. Skinnarland Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Hanford Facility RCRA Permit	Modification			
Unit:			t & Chapter:	. 47
100-NR-1 Operable Unit	Pa	rt IV. Chapter	1, Attachmen	E 47
Description of Modification:			•	
Chapter 2.0: Remove Section 9.0 and Appendix G and replace	with the attached (Chapter 2.0.		i
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				•
			*	
[23]		CI II	- CI 2	
Modification Class: ¹²³ Please check one of the Classes:	Class I X	Class 11	Class 2	Class 3
Relevant WAC 173-303-830, Appendix I Modification:	A.1.	<u> </u>		L
Enter wording of the modification from WAC 173-303-830, A	ppendix I citation:			
A. General Permit Provisions 1. Administrative and Informational changes				
Subplifted by POF Program	Office: Reviewe	d by Ecology:	Reviewed l	y Ecology:
	8/04	, 0,		
	Date J. B. Pr	ice Date	E. R. Skinnar	and Date

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

3 If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to 11, if appropriate.

Hanford Facility RCRA Permit M	odification Notification Fo	rm
Unit:	Permit Part &	Chapter:
100-NR-1 Operable Unit	Part IV, Chapter 1,	Attachment 47
Description of Modification:		
Chapter 3.0: Remove Appendix A and replace with the attached C	hapter 3.0.	
	•	
	•	
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		•
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/		
V		
·		
Modification Class: 123	Class 1 Class 1	Class 2 Class 3
Please check one of the Classes:	X	
Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I Modification from WAC 173-303-830, Appendix I Modification from WAC 173-303-830, Appendix I Modification	A.1.	·
A. General Permit Provisions		
1. Administrative and Informational changes		
Submitted by DOE Program Off	ce: Reviewed by Ecology:	Reviewed by Ecology:
Not applicable Date H. E. Bilson Date		E. R. Skinnarland Date

¹ Class 1 modifications requiring prior Agency approval.
² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.
³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should

automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to 1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Forms

1301-N & 1325-N Liquid Waste Disposal Facilities Part V, Chapter 16 Attachment 41

Quarter Ending December 31, 2003

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Page 7 of 7:	Chapter 5.0

Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part V, Chapter 16, Attachment 41 1301-N & 1325-N Liquid Waste Disposal Facilities Description of Modification: Hanford Facility RCRA Permit V.16.A.: 1301-N & 1325-N Liquid Waste Disposal Facilities were combined in Part V. Chapter 16. Attachment 42 has been streamlined to include only the enforceable sections that were identified in Part V, Chapters 16 and 17. **CHAPTER 16** 1301-N and 1325-N Liquid Waste Disposal Facilitiesy The 1301-N and 1325-N Liquid Waste Disposal Facilities y is an are inactive TD units that is are currently undergoing modified closure activities. These is TSD units waswere operated as a liquid waste disposal facilities. For dangerous wastes. This Chapter sets forth the modified closure requirements for theseis TSD units. COMPLIANCE WITH APPROVED MODIFIED CLOSURE PAL V.16.A. The Permittees shall comply with all requirements set forth in the Attachment 41/, including all modifications specified below. including Amendments specified in Condition V.16.B. 1325-N Closure Play found in Attachment 4 Enforceable portions (DOE/RL-96-39, Rev. 1A, Appendix A), for closure requirements have been incorporated in Attachment 41 and are identified as follows. including the Amendments specified in Condition V.16.B. Enforceable portions of the Plan are listed below; aAll subsections, figures, and tables included in these portions are also enforceable, unless stated otherwise: ATTACHMENT 41: Part A, Dangerous Waste Permit from Class 1 modification dated December 31, 2003 Chapter 1.0 1301-N Liquid Waste Disposal Facility Revision 3A, December 31, 2003 June 30, 1994 1325-N Liquid Wasta Disposal Facility Revision 3A, December 31, 2003 June 30, 1994 Unit Description, from Class 1 modification dated December 31, 2003 Chapter 2.0 Introduction, from Class 1 Medifications for quarter ending September 30, 2001 Section A2.1 General Description Section A1.0 of Unit, from Class 1 Modifications for quarter ending September 30, 2001 Groundwater Monitoring, from Class 1 prodification dated December 31, 2003 Chapter 3.0 Ground Water Monitoring, from Class 1 Modifications for quarter ending September 30, 2001 Section A3.0 Closure Activities, from Class 1 prodification dated December 31, 2003 Chapter 4.0 Section A4.0 Closure, from Class I Modifications for quarter ending September 30, 2001 Postclosure Plan, from Class 1 modification dated December 31, 2003 Chapter 5.0 Post-Closure Plan, from Class 1 Modifications for quarter ending September 30, 2001 Section A5.0 AMENDMENTS TO THE APPROVED MODIFIED CLOSURE PLAN V.16.B. V.16.B.1. (Reserved) Modification Class: 12 Class 11 Class 2 Class 1 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes ubmitted by Co-Operator: Wed Wy DOE Program Office: Reviewed by Ecology: Reviewed by Ecology: 12(24/07 <u>for</u> H. E. Bilson J. B. Price Date E. R. Skinnarland Hughes Date Date Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Page 3 of 7 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Part V, Chapter 16, Attachment 41 1301-N & 1325-N Liquid Waste Disposal Facilities Description of Modification: Chapter 1.0: remove and replace Chapter 1.0 with attached Chapter 1.0. Chapter 1.0, contains the Part A, Dangerous Waste Permits for 1301-N Liquid Waste Disposal Facility and 1325-N Liquid Waste Disposal Facility. Part A, Dangerous Waste Permit, from Class 1 modification dated December 31,2003 1301-N Liquid Waste Disposal Facility, Revision 3A, December 31, 2003 June 30, 1994 1325-N Liquid Waste Disposal Facility Revision 3A, December 31, 2003 une 30, 1994 Modification Class: Class ¹1 Class 2 Class 1 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes ubmitted by Co-Operator: by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology:

Hughes

12/29/03

J. B. Price

Date

E. R. Skinnarland

Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to 11, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 1301-N & 1325-N Liquid Waste Disposal Facilities Part V, Chapter 16, Attachment 41 Description of Modification: Chapter 2.0: Remove Section A1.0 and Section A2.1 and replace with the attached Chapter 2.0. Added official use only to Figures. Chapter 2.0 Unit Description, from Class 1 modification dated December 31, 2003 Section A1.0 Introduction, from Class 1 Modifications for quarter ending September 30, 2001 Section A2.1 General Description of Unit, from Class 1 Modifications for quarter ending September 30, 2001 Modification Class: 123 Class 11 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes Reviewed by Ecology: Reviewed by Ecology: mitted by Co-Operator: by DQE Program Office: 12/29/03 Date H. E. Bilson J. B. Price Date E. R. Skinnarland Date Hughes

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form						
Unit:		Permit Par	t & Chapter:			
1301-N & 1325-N Liquid Waste Disposal Facilities	Part	V, Chapter 1	16, Attachment	41		
Description of Modification:						
Chapter 3.0: Remove Section A3.0 and replace with the att figures.	ached Chapter 3	3.0. Added C	OFFICIAL USE	ONLY to		
Chapter 3.0 Groundwater Monitoring, from Class 1 mod Section A3.0 Ground Water Monitoring, from Class 1 Mc				, 2001		
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			·			
			·) · · · · · · · · · · · · · · · · · · ·		
		·				
Modification Class: 123	Class 1	Class 11	Class 2	Class 3		
Please check one of the Classes:	X					
Relevant WAC 173-303-830, Appendix I Modification:	A.1.					
Enter wording of the modification from WAC 173-303-830), Appendix I ci	tation:				
A. General Permit Provisions 1. Administrative and Informational changes		No.				
Submitted by Co-Operator: Reviewed by POE Program Office Collusion N29103 Miles III 04		by Ecology:	Reviewed b			
M.C. Hughes Date / H. E. Bilson Date	J. B. Price	Date	E. R. Skinnarlar	nd Date		

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Page 6 of 7 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 1301-N & 1325-N Liquid Waste Disposal Facilities Part V, Chapter 16, Attachment 41 Description of Modification: Chapter 4.0: Remove Section A4.0 and replace with the attached Chapter 4.0. Closure Activities, from Class 1 modification dated December 31, 2003 Section A4.0 Closure, from Class 1 Modifications for quarter ending September 30, 2001 Class 11 Modification Class: 123 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DQE Program Office: Reviewed by Ecology: Reviewed by Ecology: 12/29/07 J. B. Price E. R. Skinnarland Hughes H. E. Bilson Date Date

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 1301-N & 1325-N Liquid Waste Disposal Facilities Part V, Chapter 16, Attachment 41 Description of Modification: Chapter 5.0: Remove Section A5.0 and replace with the attached Chapter 5.0. Postclosure Plan, from Class 1 modification dated December 31, 2003 Section A5.0 Post-Closure Plan, from Class 1 Modifications for quarter ending September 30, 2001 Modification Class: Class 1 Class 11 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation: A. General Permit Provisions 1. Administrative and Informational changes Reviewed by Ecology: bmitted by Co-Operator: Reviewed by Ecology: J. B. Price E. R. Skinnarland Date Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Forms

1301-N Liquid Waste Disposal Facility Part V, Chapter 17 Attachment 41

Quarter Ending December 31, 2003

Index

Page 2 of 2: Hanford Facility RCRA Permit V.17

Hantord Facility RCRA Permit N	lodification	Notification	Form	
Unit:		Permit Pa	ırt & Chapter:	
1301-N Liquid Waste Disposal Facility	Pa	ırt V, Chapter	17, Attachmen	t 41
Description of Modification:				
Hanford Facility RCRA Permit V.17: Delete Part V, Chapt included with Part V, Chapter 16.	er 17, 1301-N	V Liquid Waste	e Disposal Facili	ity is
CHAPT	ED 17			
1301-N Liquid Wast		voilida:		
	1 1	/ /	1:5	-1 -1
The 1301-N Liquid-Waste Disposal Facility is an inactive Tactivities. This TSD unit was operated as a liquid waste dis	posal facility	for dangerous	wastes. This C	ea ciosure hanter sets
forth the modified closure requirements for this TSD unit.	AT			implex octs
V.17.A <u>COMPLIANCE WITH APPROVED MO</u> É	IFIED CLOS	URE PLAN		
The Permittees shall comply with all requirements set forth	in the 1301 N	Closure Plan	found in Attach	ment 41
(DOE/RL 96-39, Rev. 1A, Appendix A), including the Am	endments spec	cified in Cond	ition V.16.B. Er	nforceable
portions of the Plan are listed below; all subsections figures enforceable, unless stated otherwise:	s, and tables in	ncluded in the	se portions are a	lso
ATTACHMENT AL:				
Part A, Form 3, Permit Application, Revision 3, June 30, 19				
Section A1.0 Introduction, from Class 1 Modifications for				
Section A2.1 General Description of Unit, from Class 1-1		_	~ ^	· ·
Section A3.0 Ground Water Monitoring, from Class 1-M				0 , 2001
Section A4.0 Closure, from Class Modifications for qua	arter ending S	eptember 30,	2001	
Section A5.0 Post-Closure Plan, from Class 1 Modificati	ons for quarte	r ending Septe	mber 30, 2001	•
V.17.B. AMENDMENTS TO THE APPROVED M	ODIFIED CL	OSURE PLA	N	
V.17.B.1. (Reserved)	•	•		
		,		
Modification Class: 123	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:		X		
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830	Appendix I c	citation:		
A. General Permit Provisions	•			
1. Administrative and Informational changes				
Submitted by Co-Operator: Reviewed by DOE Program Office	e: Reviewed	by Ecology:	Reviewed by	y Ecology:
M. C. Hughes Date H. E. Bilson Date	J. B. Prie	ce Date	E. R. Skinnarlan	nd Date
	······································			

¹ Class I modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹I, if appropriate.

Hanford Facility RCRA Permit Modification Notification Forms Part III, Chapter 2 and Attachment 18 305-B Storage Facility

Quarter Ending December 31, 2003

Page 1 of 22

Index

Page 2 of 22: Hanford Facility RCRA Permit, Condition III.2. Page 3 of 22: Chapter 2.0 Page 4 of 22: Chapter 2.0, §2.2.1 Page 5 of 22: Chapter 2.0, Figure 2.3 Chapter 2.0, §2.5.1 Page 6 of 22: Page 7 of 22: Chapter 2.0, Figure 2.5 Page 8 of 22: Chapter 4.0 Page 9 of 22: Chapter 4.0, 4.1.1.6.12 Page 10 of 21: Chapter 6.0, §6.3.1.1 Page 11 of 22: Chapter 7.0 Chapter 7.0, §7.3.2.4 Page 12 of 22: Page 13 of 22: Chapter 7.0, §7.5 Page 14 of 22: Chapter 11.0 Page 15 of 22: Chapter 11.0, §11.1.1 Chapter 11.0, §11.1.4.1 Page 16 of 22: Chapter 11.0, §11.1.4.2 Page 17 of 22: Page 18 of 22: Chapter 11.0, §11.1.4.2.1 Page 19 of 22: Chapter 11.0, §11.1.4.3 Page 20 of 22: Chapter 11.0

Chapter 12.0

Chapter 13.0

Page 21 of 22:

Page 22 of 22:

Page 2 of 22 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 305-B Storage Facility Part III, Chapter 2 and Attachment 18 Description of Modification: Hanford Facility RCRA Permit, Condition III.2: III.2.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION The Permittees shall comply with all the requirements set forth in Attachment 18, including all Class 1 Modifications specified below, and the Amendments specified in Condition III.2.B. Enforceable portions of the permit application have been incorporated in Attachment 18 and are identified as follows. All subsections, figures, and tables included in these portions are also enforceable, unless stated otherwise: ATTACHMENT 18: Part A, Form 3, Permit Application, Revision 1C from Class 1 Modification for quarter ending Chapter 1.0 September 30, 2002 Chapter 2.0 Unit Description, from Class 1 modification for quarter ending December 31, 2003 March 31, 2003 Chapter 3.0 Waste Analysis Plan, from Class 1 Modification/for quarter ending September 30, 2003 Process Information, from Class 1 Modification for quarter ending December 31, 2003September 30, 2002 Chapter 4.0 Procedures to Prevent Hazards, from Class/1 Modification for quarter ending December 31, 2003 June 30, 2003 Chapter 6.0 Building Emergency Procedure, from Class 1 Modification for quarter ending December 31, 2003 June 30, 2003 Chapter 7.0 Personnel Training from Class | Modification for quarter ending September 30, 2003 Chapter 8.0 Closure and Post-Closure Requirements, from Class 1 Modification for quarter ending Chapter 11.0 December 31, 2003 September 30, 2002, Chapter 12.0 Reporting and Recordkeeping, from Class 1 Modification for quarter ending September 30, 2002 Other Relevant Laws, from Class / Modification for quarter ending September 30, 2002 Chapter 13.0 AMENDMENTS TO THE APPROVED PERMIT APPLICATION Ш.2.В. III.2.B.1 For all shipments of dangerous waste to or from this TSD unit, except for shipments which occur wholly within the 300 Area, the Permittees shall comply with Conditions II.P and II.Q of this Permit regarding dangerous waste shipment manifesting and transportation. Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility III.2.B.2 and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General Information Portion, Table 12.1 (DOE/RL-91-28) and are tied to the associated Sitewide RCRA Permit conditions. Modification Class: 123 Class¹1 Class 1 Class 2 Class 3 \mathbf{X} Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes

Date

Submitted by Co-Operator:

A.K. Ikenberry

Reviewed by RL Program Office:

REChustenen

R.F. Christensen

12/11/03

Date

Reviewed by Ecology:

Date

F. Jamison

Reviewed by Ecology:

Date

E. R. Skinnarland

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Unit: 305-B Storage Facilit	Permit Part & Chapter: Part III, Chapter 2 and Attachment 18				
escription of Modification:					
Chapter 2.0: Replace Chapter 2.0 with t	he attached Chapt	er 2.0.			1
eplaced 'RMW' with 'mixed waste'.					
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Modification Class: 123		Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:		X			
Relevant WAC 173-303-830, Appendix	I Modification:	A.1.			· · · · · ·
A. General Permit Provisions		30, Appendix I c	<u>citation</u>		
Administrative and Informational Submitted by Co-Operator: Reviewed by	y RL Program Offic	e: Reviewed b	y Ecology:	Reviewed by	Ecology:
A		3 848)2	25°239 2 4 1	M (1 \ \	

¹ Class 1 modifications requiring prior Agency approval.

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Page 4 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III. Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 2.0, §2.2.1: Replace Chapter 2.0 with the attached Chapter 2.0. General Requirements [B-2a] 2.2.1 Attachment 33, Appendix 2AH-13-958 is a general overview provides location maps of the Hanford Site property and the surrounding countryside. This figure is intended as a location map and illustrates the following: The facility boundary of the Hanford Site Surrounding land use including the Saddle Mountain National Wildlife Refuge and the State Game Reserve to the north, the City of Richland to the south, Rattlesnake Mountain Arid Lands Ecology (ALE) Reserve located to the west, and farmlands or Game Reserves to the east Contours sufficient to show surface water flow Fire control facilities located on the Hanford Site Locations of access roads, internal roads, railroads, and perimeter gates and barricades Latitudes and longitudes. Detailed representation of the Hanfold 300 Area where the 305-B Storage Facility is located. These maps provide a detailed profile of the unit and a distance of 1,000 ft around it at a scale noted on the drawings. Contour intervals are shown at every foot, and provide sufficient detail of surface waters and flow, access control, buildings, structures, fire control facilities, etc., to meet the requirements of WAC 173-303-806(4)(a)(xviii) (Ecology 1989). Attachment 33, Chapter 2.0, Figure 2.6, Figure 2.3 illustrates Prevailing Wind Direction for the Hanford Site (DOE/RL-91-28). Winds are predominately from the west. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 $\overline{\mathbf{x}}$ Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation **General Permit Provisions** 1. Administrative and Informational changes Reviewed by RL Program Office: Submitted by Co-Operator: Reviewed by Ecology: Reviewed by Ecology:

A.K. Ikenberry

8 Doi 03

Date

TX Chustenan 12/11/03

R.F. Christensen

Date

F. Jamison

Date

E. R. Skinnarland

Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Page 5 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 2.0, Figure 2.3: Replace Chapter 2.0 with the attached Chapter 2.0. Delete Figure 2.3 Wind Roses for the Hanford Site. Modification Class: 123 Class ¹1 Class 1 Class 2 Class 3 $\overline{\mathbf{X}}$ Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Reviewed by RL Program Office: Reviewed by Ecology: Submitted by Co-Operator: Reviewed by Ecology: R.F. Christensen E. R. Skinnarland F. Jamison Date Date A.K. Ikenberry Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

305-B Storage Facility

Permit Part & Chapter:

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 2.0, §2.5.1: Replace Chapter 2.0 with the attached Chapter 2.0.

2.5.1 Procedures for Receiving Shipments [B-8a]

The following are procedures used prior to transport of wastes to the 305-B Storage Facility. First, the generator must submit a chemical disposal/recycle request form to the Waste Management Section. An example of a Chemical Disposal/Recycle Request form is shown in Figure 2-5. This request form is then reviewed and either approved or rejected. Typical causes of rejection include missing or insufficient information in any of the data fields, or lack of specific information on waste composition. Waste information required to treat, store, or dispose of the waste is noted in Figure 2-5. Upon approval, the Waste Management Section reviews the form to determine the dangerous waste designation, waste compatibility class for storage, and containerization and labeling requirements.

The waste is then inspected at the generating unit by the Waste Management Section to verify the information contained on the request form, such as number, sizes, and types of containers, location of waste, etc., and to check for proper containerization of waste. If discrepancies are noted during the inspection, the waste will not be picked up by the Waste Management Section. Typical discrepancies include waste not as described on request form or lack of supporting data to verify waste characteristics. In such cases, deficiencies will be explained to the generating unit responsible person, who will then be responsible for correcting them.

If the waste is found to be acceptable for transport, Waste Management staff will check to ensure required labels are in place, and transport (or arrange for transport of) the waste to 305-B Storage Facility. If transport will be over public roadways or highways, a Uniform Hazardous Waste Manifest will be prepared identifying PNNL as the transporter and 305-B Storage Facility as the receiving TSD unit. A copy of all such manifests is returned to the generating unit within 30 days of receipt at 305-B Storage Facility. A copy of the manifest is also retained at 305-B Storage Facility.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology:

| Reviewed by Ecology: Reviewed by Ecology: | Special Series | Special Serie

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Unit: 305-B Storage Facility escription of Modification:	ŀ	Modification Notification Form Permit Part & Chapter:					
escription of Modification:	Part III, Chapter 2 and Attachment 18						
hapter 2.0, Figure 2.5: Replace Chapter 2.0 with the attack	ched Chapter 2.0.						
elete Figure 2.5 Example Disposal Request Form.				. `			
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				·			
	Class 1	Class 11	Class 2	Class 3			
Modification Class: 123		=		1			

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

	Unit: 305-B Storage Facility		Part II	Permit Part I. Chapter 2 a	& Chapter: and Attachme	nt 18
Description of	Modification:		<u> </u>	,,,		
	Replace Chapter 4.0 with th	e attached Chapt	er 4.0.			
Replaced 'RM	W' with 'mixed waste'.					
	er F					
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			•			
Modification	Class: 123		Class 1	Class 11	Class 2	Class 3
	one of the Classes:		X			
Relevant WA	C 173-303-830, Appendix	I Modification:	A.1.			
	g of the modification from		30, Appendix I c	itation		
A. General F	Permit Provisions nistrative and Informational			۸.		
1. Admii Submitted by		RL Program Office	e: Reviewed by	v Ecology	Reviewed by	Ecology:
Aria O de col	i acal	-	- ドルスス/~	0 ps/12	4 P 10	اروساد سر
A.K. Ikenbe	y sparter			Date	R. Skinnarla	ad Date

¹ Class 1 modifications requiring prior Agency approval.

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Page 9 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 4.0, 4.1.1.6.12: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.1.6.12 Mixed WasteRMW Storage Area. Radioactive mMixed waste that is not flammable per UFC (i.e., flash point above 100 F) is stored in a special area in the basement of 305-B Storage Facility. For additional segregation capability, there are eight small chemical storage cabinets, and four 62 in. x 62 in. x 6 in. (157 cm. x 157 cm. x 15 cm.) stainless steel 'container pans', with an approximate volume of 91 gallons (346 liters). The total area within the curbing is 1246 gallons (4716 liters). The containment pans are mounted to the floor or wall of the cell to provide segregated storage for potentially incompatible mixed waste streams. A diagram of the RMW storage cell secondary containment pan installation is provided in Figure 4-10. Drums stored in this area are stored on pallets to prevent potential contact with spilled waste in containment during an emergency. A diagram of this area is provided in Figure 4.9. In normal use, the storage capacity of this area is limited by the radionuclide-limits imposed by the DOE for "low inventory facilities." These limitations are defined in DOE-STD-1027-92, Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports, and are included in the radiation work permit for the mixed waste storage area. Class 11 Class 2 Class 3 **Modification Class:** Class 1 X Please check one of the Classes: A.1. Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Reviewed by RL Program Office: Submitted by Co-Operator: Reviewed by Ecology: RF Christenen R.F. Christensen F. Jamison E. R. Skinnarland Date A.K. Ikenberry Date Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

305-B Storage Facility

Permit Part & Chapter:

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 6.0, §6.3.1.1: Replace Chapter 6.0 with the attached Chapter 6.0.

6.3.1.1 Internal Communications

Internal communication systems are used to provide immediate emergency instruction to personnel in 305-B Storage Facility. Internal communications address general emergencies that may occur in the 300 Area as well as specific emergencies that may occur in 305-B Storage Facility.

Because of the nature of activities that occur in the 300 Area, the potential exists for emergencies outside of 305-B Storage Facility (e.g., release of radioactive mixed waste materials) that could impact operations and staff in 305-B Storage Facility. For this reason, the general emergency signals for the 300 Area are applicable to 305-B Storage Facility. These signals are summarized in Table 6-1. Fire alarm signals are located in each building throughout the 300 Area. The nearest emergency siren for "area evacuation" and "take cover" is located 300 yards southeast of 305-B Storage Facility, on top of the 326 Building, and is audible in all parts of 305-B Storage Facility. Because fissile materials are not handled in 305-B Storage Facility, there is no criticality alarm for the unit.

Internal communications to provide emergency instruction in the event of an emergency in 305-B Storage Facility are fire alarms, public address (PA) system, and telephones. The fire alarms are to be used to provide notification for immediate evacuation of 305-B Storage Facility. Fire alarm pull boxes are located at all exits of the facility such that operating personnel have immediate access to one in all portions of 305-B Storage Facility. Four-fire alarm bells are located within the 305-B Storage Facility and are audible at all locations within the building. The locations of the fire alarm bells are shown in Figure 6-4 and are as follows: (1) an office wing on the northeast hall; (2) an office wing next to the east entrance; (3) on the south wall of the basement; and (4) on the northeast wall of the high bay. The PA system is to be used for building-wide broadcasting of verbal emergency instructions to 305-B Storage Facility staff. The PA system can be accessed from any unit telephone by dialing 376-1885. The PA system speakers are located in the high bay, in the basement, and in the office wing of 305-B Storage Facility.

The telephone system is to be used to provide verbal emergency instructions to 305-B Storage Facility staff. The telephone can also be used to verbally transmit emergency data to non-305-B Storage Facility staff, and to request emergency services. A network of telephones covers both floors of the facility. Locations of telephones are shown in Figure 6.4.

Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
		`	·	

Relevant WAC 173-303-830, Appendix I Modification: A

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A General Permit Provisions

1. Administrative and Informational changes

	1. Hummisua	tivo una i	mormational changes			·		
	Submitted by Co-O	perator:	Reviewed by RL Progr	am Office:	Reviewed by	Ecology:	Reviewed by Eco	ology:
	Α	-	RF Christman	12/4/03		-	S.P. Davis	2/25/04
Ì	A.K. Ikenberry	Date	R.F. Christensen	Date	F. Jamison	Date	E. R. Skinnarland	Date

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Hanford Facility RCRA Permit N	lodification N	otification f	orm	Page 11 of 2
Unit:		Permit Part	•	
305-B Storage Facility	Part III	, Chapter 2 a	and Attachm	ent 18
Description of Modification:				
Chapter 7.0: Replace Chapter 7.0 with the attached Chapte	r 7.0.			
Replaced 'radioactive' with 'mixed waste'.				
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X	<u> </u>	Oldso 2	
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830		ation		
A. General Permit Provisions	v, zappenuix i cit	anon		
Administrative and Informational changes				
Submitted by Co-Operator: Reviewed by RL Program Office		Ecology:	Reviewed b	y Ecology:
Ariel Shupy 8 Dac 03 TEF Christenen 12/11/0		THE	Mr. Dav	1s 2/25/09
A.K. Ikenberry Date R.F. Christensen Date	F. Jamison	Date NE	. R. Skinnarla	nd Date

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Page 12 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III. Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 7.0, §7.3.2.4: Replace Chapter 7.0 with the attached Chapter 7.0. 7.3.2.4 Environment, Safety & Health Provides guidance for establishing safety requirements for mitigation and recovery actions, which include: Coordinating any support needed from other disciplines of the PNNL ES&H Directorate (i.e., Environmental Compliance Representatives, Radiological-ALARA Control, Industrial Hygiene and Field Service Representative). Provide telephone notification of incident to DOE-RL contact personnel, Attachment 18, Chapter 12.0, Sections 12.4.1.5.1 and 12.4.1.6 of the 305-B Storage Facility Permit. The Environmental Support Contact (375-2966) will provide any necessary notifications to regulatory agencies such as the Washington State Department of Ecology and ensure that required written reports to regulatory agencies are completed within 15 days of event termination. Provide notification of releases to the National Response Center and to Ecology in accordance with the site-wide hazardous waste permit, 40 CFR 302.6, and WAC 173-303-145 Modification Class: 123 Class ¹1 Class 2 Class 1 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation General Permit Provisions 1. Administrative and Informational changes Reviewed by RL Program Office: Reviewed by Ecology: Submitted by Co-Operator: Reviewed by Ecology; Rt Chustenan

Date

A.K. Ikenberry

R.F. Christensen

Date

F. Jamison

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Page 13 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 7.0, §7.5: Replace Chapter 7.0 with the attached Chapter 7.0. 7.5 **Facility Hazards** 7.5.1 **Hazardous Materials** The facility may contain hazardous material typically found in an industrial facility including: Chemical hazards such as corrosives, oxidizers, flammable solids and liquids, poisons, etc., Radioactive materials. Hazardous wastes, Radioactive mMixed wastes 7.5.2 Physical (Industrial) Hazards The facility may contain industrial hazards such as high-voltage equipment, and overhead hazards. 7.5.3 **Dangerous or Mixed Waste** Refer to Section 7.5.1. 7.5.4Radioactive Materials Refer to Section 7.5.1. 7.5.57.5.4Criticality Not applicable. Class 11 Modification Class: Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation

Date

1. Administrative and Informational changes

A. General Permit Provisions

Submitted by Co-Operator:

A.K. Ikenberry

Reviewed by RL Program Office:

R.F. Christensen

Date

F. Jamison

Date

Reviewed by Ecology:

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Hanford Facility RCRA Permit M Unit: 305-B Storage Facility		Permit Part		ent 18
Description of Modification:	,		.:	
Chapter 11.0: Replace Chapter 11.0 with the attached Chap	ter 11.0.			
Replaced 'RMW' with 'mixed waste'.				
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions	, Appendix I cita	<u>uon</u>		
Administrative and Informational changes Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by E	cology:	Reviewed by	v Ecology:
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A.K. Ikenberry Date R.F. Christensen Date	 	Date VI	R. Skinnarla	nd Dat

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Unit:

Permit Part & Chapter:

305-B Storage Facility

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 11.0, §11.1.1: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1.1 Closure Performance Standard

The 305-B Storage Facility will be closed in a manner that will minimize the need for further maintenance and eliminate post-closure release of dangerous/mixed waste or dangerous/mixed waste constituents that could pose a risk to human health or the environment. This standard will be met by removal of all dangerous/mixed waste and dangerous/mixed residues from the unit. Closure activities will return the 305-B Storage Facility site to the appearance and use of surrounding land areas. After closure, the 305-B Storage Facility will be in a condition suitable for use to support research and development activities. This use is consistent with the surrounding land use.

If there is any evidence of spills or leaks from the unit into the environment, samples will be taken and analyzed to determine the extent of contamination in the soil, and if necessary, in groundwater. Evidence of spills or leaks will be obtained through sampling of unit structures accessible to the environment (e.g., floors) and through inspection of all barriers designed to prevent migration to the environment (e.g., sumps). If this sampling program indicates that contamination is present, the potential for migration of contamination to the environment will be evaluated. If potential migration appears likely, additional samples will be taken. In addition, if the inspections identify any potential contaminant migration routes (e.g., cracks in sumps), additional samples will be collected to determine whether migration has occurred. Spill reports and logs shall be consulted to determine potential areas of contamination.

Any contaminated soil will be excavated, removed, and disposed as dangerous or mixed waste. <u>(determination of dangerous or mixed waste status will be based on waste radioactivity)</u>. Soil will be decontaminated to the following levels, as required under WAC 173-303-610(2)(b):

- Background environmental levels for waste which are listed under WAC 173-303-081 or WAC 173-303-082
- Background environmental levels for waste which are characteristic dangerous waste under WAC 173-303-090
- Designation limits for waste that are designated under WAC 173-303-084, or WAC 173-303-101 through WAC 173-303-103.

Equipment and structural components will be decontaminated using the procedures described in Section 11.1.4. All residues resulting from decontamination will be sampled and analyzed, as described in Section 11.1.4.3, to determine whether they are dangerous waste. All residues will be removed from the unit and transferred to a facility having the necessary permits. Residues containing listed waste, having dangerous waste characteristics, or exceeding dangerous waste designation limits will be disposed as dangerous waste.

Modification Class: 123		Class 1	Class '1	Class 2	Class 3
Please check one of the Cla	sses:	X			
Relevant WAC 173-303-83	0, Appendix I Modification:	A.1.			
Enter wording of the modif A. General Permit Provisi 1. Administrative and	•	830, Appendix I c	<u>itation</u>		
Submitted by Co-Operator: Awy Shuly 8 De 03	Reviewed by RL Program Off		y Ecology:	Reviewed b	•

F. Jamison

Date

E. R. Skinnarland

Date

A.K. Ikenberry

R.F. Christensen

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Page 16 of 22 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 11.0, §11.1.4.1: Replace Chapter 11.0 with the attached Chapter 11.0. **Inventory Removal** 11.1.4.1 Closure activities will be initiated by removal of the dangerous/mixed waste inventory present at 305-B-Storage Facility at the time of closure. Inventory removal procedures will be identical to the waste handling, packaging, and manifesting activities associated with normal operation of the unit. All dangerous waste present will be placed into proper containers according to currently accepted waste handling procedures; mixed waste will be placed into containers and meet Hanford specifications. outlined in WHC EP-0063, Hanford Radioactive Solid Waste Packaging, Storage, and Disposal Requirements. To the extent possible, chemicals will be bulked into larger containers. If wastes are bulked, containers will be emptied in compliance with WAC 173-303-160 so that they are not dangerous waste. Small quantity laboratory chemicals that cannot be bulked will be packaged into labpack containers in compliance with the requirements of WAC 173-303-161. All containers of dangerous/mixed waste will be manifested, and custody transferred to a dangerous waste transporter having a proper dangerous waste identification number. Waste will be transported to a permitted dangerous waste facility for treatment or disposal. Modification Class: 123 Class 11 Class 3 Class 1 Class 2 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1.

8 Der 03

Date

1. Administrative and Informational changes

A. General Permit Provisions

Submitted by Co-Operator:

A.K. Ikenbérry

Enter wording of the modification from WAC 173-303-830, Appendix I citation

Rf Chustinan

R.F. Christensen

Reviewed by RL Program Office:

12/11/03

Date

Reviewed by Ecology:

Date

F. Jamison

Reviewed by Ecology:

Date

E. R. Skinnarland

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Unit:

Permit Part & Chapter:

305-B Storage Facility

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 11.0, §11.1.4.2: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1.4.2Decontamination of Building Equipment and Structures

All equipment and structures in dangerous/mixed waste handling and storage areas will be decontaminated at the time of closure. Equipment and structures to be decontaminated include:

- · Floors and walls of the four dangerous waste storage cells
- · Floors, walls, and ceiling of high bay and flammable liquid bulking module areas
- Floors and walls of remainder of first floor except for offices, work area, and lavatories/change rooms
- · Floors, walls, and ceiling of basement except equipment storage room
- Interior surfaces of all secondary containment trenches
- Fork lift and loading hoist
- Asphalt ramp outside north high bay door.

Before decontamination, sampling and analysis will be performed to determine decontamination requirements. In most cases, minimal decontamination consisting of washing or wiping will be performed unless the sampling and analysis indicates the presence of high levels of significant contamination. In order to determine whether such contamination exists, a systematic sampling approach designed to identify the presence of "hot spots" contaminated areas will be employed. Structures (i.e., floors, walls, ceilings) to be sampled before decontamination will be sampled on a regular grid with a spacing of 5 ft. This spacing provides an 80% probability of detecting a circular area of contamination having a radius of 2.5 ft or larger (Gilbert 1987, pp. 119-125). Biased on sampling of areas more likely to have been contaminated by unit operations, such as cracks or seams in the concrete floor or any visible stains, or areas of documented spills or releases, will also be performed. If any areas of contamination are detected, more thorough decontamination procedures will be used in those areas.

Structural surfaces will be sampled by collecting wipe samples at each grid point. At each sample location, two samples will be collected within adjacent 1 ft square templates. One sample will be collected using a gauze pad wetted with dilute nitric acid for extraction of inorganic contaminants. The other sample will be collected with a gauze pad wetted with hexane for extraction of organic contaminants.

Decontamination of equipment and structures will take place as described below. The magnitude of each phase of the operation and estimated time for completion is included.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modifica	ation: A.1.	· · · · · · · · · · · · · · · · · · ·		:
Enter wording of the modification from WAC 173	-303-830, Appendix I c	itation		
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Submitted by Co-Operator: Reviewed by RL Progra	m Office: Reviewed b	y Ecology:	Reviewed b	y Ecology:
Aver Shyry 80003 Tet Christenser	Philes 14/12	- 194A	4 P 10	12 2 boch

Date F. Jamison

E. R. Skinnarland

Date

Date

Date

R.F. Christensen

A.K. Ikenberry

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Unit:

305-B Storage Facility

Permit Part & Chapter:

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 11.0, §11.1.4.2.1: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1.4.2.1 Decontamination of Basement

Once <u>Cell 7the RMW room</u>-has been completely emptied of stored waste, any visible residues present will be scraped, vacuumed and/or swept up until visibly clean. All residues thus obtained will be placed in open top drums and disposed of as appropriate. All waste materials generated during the decontamination process of the <u>RMW Cell 7room</u> will be surveyed by radiological control technicians (<u>RCTs</u>) designated to determine whether the waste generated from decontamination should be handled as <u>RMW is mixed waste</u>. After the above process is completed, wipe samples will be collected at various points along the floors, walls, and ceiling of the basement.

Swab samples will be collected from the <u>RMW room Cell 7</u> to test for dangerous waste contamination resulting from storage activities. Any dangerous waste contamination found during this testing will be presumed to have come from storage activities unless otherwise documented. Random and biased sampling locations will be selected using the procedures noted in Section 11.4.4.

The swab samples will be analyzed to determine if the for mixed waste constituents RMW storage area has been radioactively contaminated. Baseline smears will have been documented prior to introduction of mixed waste RMW. Radioactivity has been selected as an indicator of contamination since it is present in the RMW and is easily detected. Once the results from the testing are known, a decision can be made as to the appropriate decontamination procedures. If no contamination is found on the swab samples, decontamination procedures will consist of dusting, vacuuming, and wiping with soap and water. Vacuuming is performed using a commercial or industrial vacuum equipped with a high-efficiency particulate air (HEPA) filter. The vacuum cleaner bag containing captured particulates is disposed of as appropriate.

Dusting/wiping is done with a damp cloth or wipe (soaked with water or solvent) to remove dust from surfaces not practically treatable with a vacuum. The cloth or wipe is also disposed of as appropriate. Brushing or sweeping is used to clean up coarse debris.

Minimal time will be required for setup of the equipment. Labor requirements for the process should be moderate. Minimal time will also be required for packaging debris and dismantling and removing cleaning equipment. Little wastewater (only the contents of the buckets) will be generated by this procedure. However, if contamination is found on the swab samples, more sophisticated decontamination procedures must be implemented. The entire RMW-Cell 7 storage room will be extensively treated via steam cleaning. Applying steam from a hand-held wand to remove all residues from the surfaces will treat the ceiling, all four walls, and the floor. The contaminated wastewater generated by this activity will be contained by the designed spill controls already in place for waste storage areas. Pumps or vacuums will be used to empty the wastewater from the containment area into polyethylene-lined, closed top drums. These containers will be transported for proper management at an approved dangerous waste or mixed wasteRMW TSD facility.

Although this procedure will require more time than the dusting, vacuuming, and wiping procedures outlined above, time requirements are still considered to be minimal for the steam cleaning approach. Wastewaters generated by this procedure are not anticipated to exceed 100 gal.

Following completion of decontamination, sampling will be performed, as described in Section 11.1.4.4, to verify that decontamination is complete.

Modification Class: 12 3 Please check one of the Classes:	Class 1 X	Class 11	Class 2	Class 3
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, A A. General Permit Provisions 1. Administrative and Informational changes	Appendix I citation	·		
Submitted by Co-Operator: Reviewed by RL Program Off Well Dunky Sports Telegram 12/11 A.K. Ikenberry Date R.F. Christensen De	1) () /	- 0 7446g	Reviewed by Y.P. Davu É. R. Skinnarlar	à 2/25/09

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Unit:

305-B Storage Facility

Permit Part & Chapter:

Part III, Chapter 2 and Attachment 18

Description of Modification:

Chapter 11.0, §11.1.4.3: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1.4.3 Management of Decontamination Waste

Liquid decontamination waste will be placed in drums and sampled to determine disposal requirements. Grab samples will be collected from drums using COLIWASA samplers. In order to properly designate the decontamination waste under WAC 173-303-070, grab samples from each drum will be analyzed for the following:

- Corrosivity using the methods described in SW-846
- Flash point using methods described in SW-846
- Toxicity characteristic using the toxicity characteristic leaching procedure described in SW-846 (includes analysis for metals, volatile organics, and semi-volatile organics including chlorinated pesticides)
- •Total radioactivity using gross-alpha, gross beta, and gamma scans.

The results of sample analysis will be used to determine how to dispose of liquid decontamination waste. The results of volatile and semi-volatile organic analysis of the liquid performed as part of the TCLP will be used to determine the presence of potential listed [WAC 173-303-081(1) and WAC 173-303-082(1)] dangerous waste constituents above background. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) Those liquid wastes with listed waste constituents above background will be designated as dangerous waste. The results of the ignitability, corrosivity, and TCLP analyses will be used to determine if liquid wastes are characteristic dangerous waste [WAC 173-303-090]. Organic and inorganic analytical results will also be used to determine if liquid wastes are dangerous waste mixtures [WAC 173-303-084]. These results will also be used to determine whether the wastes are LDR [WAC 173-303-140(4) and 40 CFR 268]. The results of the radiological analyses will be used to determine whether any of the liquid wastes are low level liquid radioactive waste or radioactive mixed waste. Depending on designation, liquid decontamination waste will be disposed of as follows:

- Dangerous Manifested and shipped to a permitted dangerous waste TSD facility
- Radioactive-Mixed Waste Manifested and shipped to a permitted radioactive-mixed waste TSD facility
- •Low-level Radioactive Shall be handled in accordance with the Liquid Effluent Consent Order (No. DE91NM-177) and Milestone M-17 of the Hanford Federal Facility Agreement and Consent Order
- Nonregulated Shall be handled in accordance with the Liquid Effluent Consent Order (No. DE91NM-177) and Milestone M-17 of the Hanford Federal Facility Agreement and Consent Order.

All non-liquid waste generated during decontamination of dangerous waste storage areas and equipment (e.g., personnel protective clothing) will be collected in 55-gal open-head drums and managed as dangerous waste. All non-liquid waste generated during decontamination of mixed wasteRMW storage areas and equipment will be similarly collected and managed as mixed wasteRMW.

Modification Class: 1				Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:			X -			v.	
Relevant WAC 173-3	303-830,	Appendix I Modification:		A.1.			·
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A.K. Ikenberry	Date	R.F. Christensen	Date	F. Jamison	Date	E. R. Skinnarlar	

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Unit: 305-B Storage Fac	ility RCRA Permit		Permit Part I, Chapter 2 a	& Chapter:	ant 18
Description of Modification:	omty	Faitii	i, Chapter 2 a	IIIU Attaciiiii	
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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 2 and Attachment 18 305-B Storage Facility Description of Modification: Chapter 12.0: Remove Chapter 12.0 and replace with Permit Condition III.2.B.2. Modification Class: 123 Class 11 Class 2 Class 3 Class 1 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: TZF Churtenan 12/11/63 R.F. Christensen F. Jamison Date E. R. Skinnarland Date Date

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Hanford Facility RCRA Permit Modification Notification Form						
Unit:		Permit Pa	rt & Chapter:			
305-B Storage Facility	Part III	l, Chapter 2	and Attachme	ent 18		
Description of Modification:						
Chapter 13.0: Remove Chapter 13.0.						
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Please check one of the Classes:	X					
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Enter wording of the modification from WAC 173-303-830	Appendix I ci	tation				
A. General Permit Provisions						
Administrative and Informational changes						
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by	Ecology:	Reviewed by	y Ecology:		
This Therity 82003 TEF Churaterise 12/11/0						
A.K. Ikenberry Date R.F. Christensen Date	F. Jamison	Date	E. R. Skinnarla	nd Date		

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Part III, Chapter 6 and Attachment 36

325 Hazardous Waste Treatment Units

Quarter Ending December 31, 2003

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Page 4 of 54:	Chapter 3.0, Glossary	Page 31 of 54: Chapter 6.0, §6.1.1.1
Page 5 of 54:	Chapter 3.0, §3.0	Page 32 of 54: Chapter 6.0, §6.3.1.1
Page 6 of 54:	Chapter 3.0, §3.1.4	Page 33 of 54: Chapter 6.0, §6.3.1.3
Page 7 of 54:	Chapter 3.0, §3.2	Page 34 of 54: Chapter 6.0, §6.4.1
Page 8 of 54:	Chapter 3.0, §3.3	Page 35 of 54: Chapter 6.0, §6.4.5
Page 9 of 54:	Chapter 3.0, §3.3	Page 36 of 54: Chapter 6.0, §6.5.3
Page 10 of 54:	Chapter 3.0, §3.3.1	Page 37 of 54: Chapter 7.0
Page 11 of 54:	Chapter 3.0, §3.3.5	Page 38 of 54: Chapter 11.0, §11.1.3
Page 12 of 54:	Chapter 3.0, §3.4.1.1	Page 39 of 54: Chapter 11.0, §11.2.2
Page 13 of 54:	Chapter 3.0, §3.4.2	Page 40 of 54: Chapter 11.0, §11.2.3
Page 14 of 54:	Chapter 3.0, §3.6	Page 41 of 54: Chapter 11.0, §11.2.4
Page 15 of 54:	Chapter 3.0	Page 42 of 54: Chapter 11.0, §11.2.5
Page 16 of 54:	Chapter 3.0, §3.8.5	Page 43 of 54: Chapter 11.0, §11.3.2
Page 17 of 54:	Chapter 3.0, §3.9	Page 44 of 54: Chapter 11.0, §11.3.3
Page 18 of 54:	Chapter 3.0, Figure 3.5	Page 45 of 54: Chapter 11.0, §11.3.4
Page 19 of 54:	Chapter 3.0, Figure 3.7	Page 46 of 54: Chapter 11.0, §11.4.1
Page 20 of 54:	Chapter 4.0, §4.1.1.2	Page 47 of 54: Chapter 11.0, §11.4.2
Page 21 of 54:	Chapter 4.0, §4.1.2.1	Page 48 of 54: Chapter 11.0, §11.4.4
Page 22 of 54:	Chapter 4.0, §4.1.2.2	Page 49 of 54: Chapter 11.0, §11.5
Page 23 of 54:	Chapter 4.0, §4.1.7.2	Page 50 of 54: Chapter 11.0, §11.6
Page 24 of 54:	Chapter 4.0, §4.1.1.1.2	Page 51 of 54: Chapter 11.0, §11.7
Page 25 of 54:	Chapter 4.0, §4.2.1	Page 52 of 54: Chapter 11.0, Table 11.1
Page 26 of 54:	Chapter 4.0, §4.2.1.4	Page 53 of 54: Chapter 12.0
Page 27 of 54:	Chapter 4.0, §4.2.1.5	Page 54 of 54: Chapter 13.0
Page 28 of 54:	Chapter 4.0, §4.2.2.2.1	

Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 6 and Attachment 36 325 Hazardous Waste Treatment Units Description of Modification: Hanford Facility RCRA Permit, III.6: COMPLIANCE WITH APPROVED PERMIT APPLICATION III.6.A. The Permittees shall comply with all requirements set forth in Attachment 36, including the Amendments specified in Condition III.6.B. All subsections, figures, and tables included in these portions are enforceable. **ATTACHMENT 36:** Part A, Form 3, Dangerous Waste Permit, Revision 4A, from Class 1 Modification for quarter ending Chapter 1.0 December 31, 2002 Unit Description, from Class 1 Modification for quarter ending December 31, 2002 Chapter 2.0 Waste Analysis Plan, from Class 1 Modification/for quarter ending Chapter 3.0 December 31, 2003 September 30, 2002 Process Information from Class 1 Modification for quarter ending December 31, 2003 March 2002 Chapter 4.0 Procedures to Prevent Hazards, from Class 1 Modification for quarter ending December 31, 20032 Chapter 6.0 Contingency Plan, from Class 1 Modification for quarter ending June 30 December 31, 2003 Chapter 7.0 Personnel Training, from Class Modification for quarter ending December 31, 2002 Chapter 8.0 Closure and Financial Assurance, from Class 1 Modification for quarter ending Chapter 11.0 2003 March 2002 Reporting and Record Leeping from Class 1 Modification for quarter ending December 31, 2002 Chapter 12.0 Other Federal and State Laws, from Class 1 Modification for quarter ending December 31, 2002 Chapter 13.0 AMENDMENTS TO THE APPROVED PERMIT APPLICATION III.6.B. Portions of DOE/RL 94-02 that are not made enforceable by inclusion in the applicability matrix for III.6.B.1. that document, are not made enforceable by reference in this document. Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility III.6.B.2 and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General Information Portion, Table 12.1 (DOE/RL-91-28) and are tied to the associated Sitewide RCRA Permit conditions. Class 11 Class 2 Class 3 Modification Class: Class 1 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: 12/11/03 F. C. Jamison E. R. Skinnarland R. F. Christensen Date Date A. K. Ikenberry Date Date

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Hanford Facility RCRA Permit Modif	ication Notification Form
Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36
escription of Modification:	
hapter 3.0, Glossary: Replace Chapter 3.0 with the attached	Chapter 3.0.
GLOSSA	ARY
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Modification Class: 12 3 Please check one of the Classes:	Class 1 Class 1 Class 2 Class 3
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Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Apper	
A. General Permit Provisions	<u> </u>
Administrative and informational changes	
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison Date E. R. Skinnarland Date

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Page 4 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 6 and Attachment 36 325 Hazardous Waste Treatment Units Description of Modification: Chapter 3.0, Glossary: Replace Chapter 3.0 with the attached Chapter 3.0. **GLOSSARY** Verify (Verification) An assessment the receiving TSD unit performs to substantiate the analysis acquired by the TSD unit before acceptance. Verification must be performed by TSD unit personnel or an authorized agent on wastes received by the TSD unit. Verification may occur at the receiving TSD unit or at the generator's location, depending on many dangerous-waste shipment and packaging configuration factors. Verification activities include container receipt inspection, and as applicable, physical screening (which may include radiological methods), and/or chemical screening/fingerprint analysis. Class 11 Class 2 Class 3 Modification Class: 123 Class 1 Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, A. General Permit Provisions Administrative and informational changes Reviewed by Ecology: Reviewed by RL Program Office: Submitted by Co-Operator: 11/03

A. K. Ikenberry

Date

R. F. Christensen

E. R. Skinnarland

Date

Date

F. C. Jamison

¹Class 1 modifications requiring prior Agency approval.

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Page 5 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 3.0, §3.0: Replace Chapter 3.0 with the attached Chapter 3.0. 3.0 WASTE ANALYSIS PLAN This chapter provides information on the chemical, biological, and physical characteristics of the waste treated and stored in the 325 HWTUs, including waste descriptions, designations, and a waste-analysis plan. Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority. These materials are not subject to regulation by the State of Washington. All information contained herein and related to, or describing AEAregulated materials and processes in any manner, may not be used to create conditions or other restrictions set forth in any permit, licence, order, or any other enforceable instrument. DOE asserts that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

Modification Class: 123	Class 1	Class	1 Class 2	Class 3
Please check one of the Classes:	· X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appe	ndix I citation			
A. General Permit Provisions				
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Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ec	ology:	Reviewed by	Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date	E. R. Skinnarlar	nd Date

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Page 6 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 6 and Attachment 36 325 Hazardous Waste Treatment Units Description of Modification: Chapter 3.0, §3.1.4: Replace Chapter 3.0 with the attached Chapter 3.0. Hazardous or Mixed Waste from Chemicals Synthesized or Created in Research Activities Using 3.1.4 Radioactive Isotopes Dangerous wWaste from research activities may contain using radioactive isotopes is in addition to RCRA regulated constituents, designated as mixed waste and typically is generated In such cases the wastes are designated as mixed waste. Typically such wastes are generated in small quantities, ranging from a few grams to a few liters. These waste types consist primarily of radiologically contaminated chemicals, such as organics. Waste is designated based on process knowledge or on the basis of sampling and analysis. Process knowledge is used if the generator has kept accurate records of the identities and concentrations of constituents present in the waste (e.g., log sheets for accumulation containers). If information available from the generator is inadequate for waste designation, the waste is sampled, and the results of the analysis are used for designation. These waste types include waste designated as characteristic dangerous-waste mixtures under WAC 173-303-090 and waste designated as dangerous waste under WAC 173-303-100. Attachment 36, Chapter 1.0, Part A., Form 3, includes all categories of toxic, persistent, and carcinogenic waste mixtures (i.e., both dangerous waste and extremely hazardous waste). While not all of these waste types currently are generated or have been generated, the wide variety of research activities conducted on the Hanford Facility presents the potential that these waste types could be generated and could require subsequent management at the 325 HWTUs. Similarly, the Part A, Form 3, includes the characteristic dangerous-waste categories D001 through D043 (i.e., ignitable, corrosive, reactive, and toxicity characteristics leaching procedure [TCLP] toxics caused by metals or organics content). The waste also could be LDR waste regulated under 40 CFR 268 and WAC 173-303-140. Modification Class: 12 3 Class 11 Class 1 Class 2 Class 3

¹Class 1 modifications requiring prior Agency approval.

Relevant WAC 173-303-830, Appendix I Modification:

Date

Administrative and informational changes

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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R. F. Christensen

Reviewed by RL Program Office:

Please check one of the Classes:

A. General Permit Provisions

Submitted by Co-Operator:

A. K. Ikenberry

X

F. C. Jamison

Reviewed by Ecology:

E. R. Skinnarland

12/11/63

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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 3.0, §3.2: Replace Chapter 3.0 with the attached Chapter 3.0.

325 HAZARDOUS WASTE TREATMENT UNITS WASTE ANALYSIS PLAN 3.2

The 325 HWTUs are part of the Unit-Specific Portion of the Hanford Facility Dangerous Waste Permit Application, which reflects the organization of the Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit, WA7890008967.

The 325 HWTUs consist of three units, all within the 325 Building, located in the 300 Area on the Hanford Facility (Figure 3.1). Attachment 36, Chapter 2.0 provides detailed location information.

The 325 Building includes the following: (1) a central portion (completed in 1953) that consists of three floors (basement, ground, and second) containing general-purpose laboratories, provided with special ventilation and work enclosures, designed for radiochemical work; (2) a south (front) wing containing office space, locker rooms, and a lunch room; and (3) east and west wings containing shielded enclosures with remote manipulators. The Shielded Analytical Laboratory (SAL) is located in Rooms 32, 200, 201, 202, and 203. The HWTU is located in Rooms 520, 524 and 528. Figures 3.2 through 3.45 provide drawings of the TSD units.

The fire water-collection tank, which serves rooms 520 and 528 of the HWTU, is located beneath Room 520 in the basement of the 325 Building. The rectangular tank measures 1.65 meters by 2.25 meters by 1.92 meters, and has a 22,710-liter capacity. The sides and floor of the tank are constructed of epoxy-coated carbon-steel plate. The steel sides and floor provide support for the chemical-resistant polypropylene liner. The tank is secured to the concrete floor of the 325 Building with 1.3-centimeter bolts at 1.82-meter intervals.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			•
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appe	ndix I citation			
A. General Permit Provisions				
 Administrative and informational changes 				
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	1 7-7	R. Skinnarland	, ,

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part Ill, Chapter 6 and Attachment 36 Description of Modification: Chapter 3.0, §3.3: Replace Chapter 3.0 with the attached Chapter 3.0.

3.3 DESCRIPTION OF UNIT PROCESSES AND ACTIVITIES

The 325 HWTUs store and treat dangerous waste generated by Hanford Facility programs (primarily from research activities in the 325 Building and other Pacific Northwest National Laboratory [PNNL] facilities) and potentially from other onsite/offsite laboratories. Storage in containers and bench- or small-scale treatment of dangerous waste occur in both the HWTU and the SAL. As described in further detail in Attachment 36, Chapter 4.0, containers are managed in accordance with WAC 173-303-630; the SAL tank is managed and operated in accordance with WAC 173-303-640.

At the SAL, dangerous waste liquid is stored in a tank in Room 32. This dangerous waste, along with contributions from the HWTU, currently is discharged to the 340 Building via the RLWS. Because of the scheduled deactivation of the 340 Building, a modification to the existing 325 RLWS system is required. As part of this modification, dangerous waste will be collected, stored, and possibly treated in a tank before being transported to the double-shell tank system. This modified system will be referred to as the RLWS load-out tank system. Waste from the RLWS load-out tank system will be transferred to the truck-lock where the waste will be transported to the double-shell tank via a shielded-cask trailer system. Two stretches of piping from the existing RLWS system that are associated with the HWTU will not be used in the modified system. As discussed in Attachment 36, Chapter 11.0, these lines will be capped in place and closed during final closure activities of the RLWS load-out tank system.

Before receipt or acceptance of waste at the 325 HWTUs, the generator must supply adequate information to characterize and manage the waste properly. The information may include waste-characterization data, waste volume, container information, and process information.

Class 1 Modification Class: 123 Class 11 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Reviewed by RL Program Office: Reviewed by Ecology: Submitted by Co-Operator: by Ecology: 12/11/03 R. F. Christensen F. C. Jamison E. R. Skinnarland A. K. Ikenberry Date Date

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Hanford Facility RCRA Permit Modification Notification Form 235 Hazardous Waste Treatment Units Permit Part & Chapter: 326 Permit Part & Chapter: Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 3.0, §3.3: Replace Chapter 3.0 with the attached Chapter 3.0. The 325 HWTUs have two drainage systems to handle liquid waste, the RPS and the RLWS. These two systems serve several laboratorics and research areas in the 325 Building and are part of the larger liquid-waste systems that serve the entire 300 Area and are not part of the regulated TSD unit. Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority. These materials are not subject to regulation by the State of Washington. All information contained herein and related to, or describing AEA-regulated materials and processes in any manner, may not be used to create conditions or other restrictions set forth in any permit, licence, order, or any other enforceable instrument. DOE asserts hat/bursant to the AEA its soft in the soft and exclusive responsibility and authority to regulate source, special nuclear and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only. The RPS system is not part of the regulated unit but serves the entire 325 Building, including the 325 HWTUs. It is included here for informational purposes only. Relevant WAC 173-303-830, Appendix I Modification: A. General Permit Provisions 1. Administrative and informational changes	Page 9 of 54						
Description of Modification: Chapter 3.0, §3.3: Replace Chapter 3.0 with the attached Chapter 3.0. The 325 HWTUs have two drainage systems to handle liquid waste, the RPS and the RLWS. These two systems serve several laboratories and research areas in the 325 Building and are part of the larger liquid-waste systems that serve the entire 300 Area and are not part of the regulated TSD unit. Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at DOE facilities exclusively by DOE acting pursuant to its AEA authority. These materials are not subject to regulation by the State of Washington. All information contained herein and related to, or describing AEA-regulated materials and processes in any manner, may not be used to create conditions or other restrictions set forth in any permit, licence, order, or any other enforceable instrument. DOE asserts that, pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only. The RPS system is not part of the regulated unit but serves the entire 325 Building, including the 325 HWTUs. It is included here for informational purposes only. **Relevant WAC 173-303-830, Appendix I Modification:** A.I.** Enter wording of the modification from WAC 173-303-830, Appendix I citation **A. General Permit Provisions**							
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Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions							
Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions							
Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions		•			^		
Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions							
Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions	Modification Class: 123	Class 1	Class 11	Class 2	Class 3		
Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions	Please check one of the Classes:	X					
A. General Permit Provisions	Relevant WAC 173-303-830, Appendix I Modification: A.1.						
	A. General Permit Provisions						
Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: New Uniform Data P. F. Christoppen Data D	Nice Skinly & DOCO3 TX Christenson 12/11/03			. ·			

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Hanford Facility RCRA Permit Mod	lification Notificatio	on Form		
Unit:		Permit Part &	•	
325 Hazardous Waste Treatment Units	Part III,	Chapter 6 an	d Attachmen	t 36
Description of Modification:			•	
Chapter 3.0, §3.3.1: Replace Chapter 3.0 with the attached	Chapter 3.0.			
3.3.1 Identification/Classification and Quantities of Da 325 HWTUs and Restricted/Prohibited	ingerous Waste Gei	nerated or M	anaged at the	e
The dangerous waste managed at the 325 HWTUs can be casources:	tegorized as originat	ing from the f	ollowing gen	eral
 listed waste from specific and nonspecific sources laboratory waste resulting from analysis of samples discarded commercial chemical products waste from <u>hazardous or mixed</u> chemicals synthesized of discarded commercial chemical products exhibiting dan 	or created in research gerous-waste charac	activities usin	ng radioactive r criteria.	isotopes
Each of these waste categories is discussed in the following characteristics, and basis for hazard designations. This info dispose of the waste as required under WAC 173-303-806(4)	rmation includes dat	waste descript a that must be	ons, hazard known to tre	at, store, or
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appe			<u> </u>	
A. General Permit Provisions				
Administrative and informational changes	1	·		
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Eco	logy:	Reviewed by	Ecology:

A. K. Ikenberry

R. F. Christensen

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Hanford Facility RCRA Permit Modif	ication Notification Form
Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36
Description of Modification:	
Chapter 3.0, §3.3.5: Replace Chapter 3.0 with the attached Ch	apter 3.0.

3.3.5 <u>Hazardous or Mixed</u> Waste from Chemicals Synthesized or Created in Research Activities Using Radioactive Isotopes

Dangerous waste from research activities using radioactive isotopes is designated as dangerous waste and typically is generated in small quantities ranging from a few grams to a few liters. These waste types consist primarily of radiologically contaminated chemicals, such as organics. Waste is designated based on process knowledge or on the basis of sampling and analysis. Process knowledge is used if the generator has kept accurate records of the identities and concentrations of constituents present in the waste (e.g., log sheets for accumulation containers) If information available from the generator is inadequate for waste designation, then the waste is sampled and the results of the analysis are used for designation. These waste types include waste designated as characteristic dangerous-waste mixtures under WAC 173-303-090 and waste designated as dangerous waste under WAC 173-303-100. The Part A, Form 3, includes all categories of toxic and persistent waste mixtures (i.e., both dangerous waste and extremely hazardous waste). While not all of these waste types currently are generated or have been generated, the wide variety of research activities conducted on the Hanford Facility presents the potential that these waste types could be generated and could require subsequent management at the 325 HWTUs. Similarly, the Part A, Form 3, includes the characteristic dangerous-waste categories D001 through D043 (i.e., ignitable, corrosive, reactive, and TCLP toxic because of metals or organics content).

The waste also could be LDR waste, regulated under 40 CFR 268 and WAC 173-303-140.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.	4 2		
Enter wording of the modification from WAC 173-303-830, Ap	pendix I citation			
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Submitted by Co-Operator: Reviewed by RL Program Office	Reviewed by Ec	1976/-	Reviewed by I	Ecology:
this Shuly 8 Reids Tot Chustenson 12/11/2	3 145 2	14 H	P Davis	2/25/0
A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date (É.	R. Skinnarland	l Date

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Page 12 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III, Chapter 6 and Attachment 36 325 Hazardous Waste Treatment Units Description of Modification: Chapter 3.0, §3.4.1.1: Replace Chapter 3.0 with the attached Chapter 3.0. 3.4.1.1 Technical Review Process Overview This program, administered by the 325 HWTUs personnel, is designed to obtain the waste information required pursuant to 40 CFR 264.13 and WAC 173-303-300. The review is conducted by qualified 325 HWTUs personnel using procedural guidelines and professional judgment. The reviewer(s) at their discretion, could request additional information or require additional analytical data before determining waste acceptability. The first step in evaluating the acceptability of a waste is to obtain a general description of the wastes and to identify the waste codes and regulatory requirements that apply to the waste. Technical review of waste information is designed to accomplish three objectives: (1) determine if the 325 HWTUs can accept the material; (2) identify special handling projectures necessary to store the material safely before and during treatment; and (3) identify treatment technologies that meet waste-minimization efforts and applicable regulatory restrictions (e.g. LDR). The waste-stream file includes the following information submitted by the generator and any literature reviews, records of conversations, etc., completed by the reviewer: copies of laboratory-test results, specific information on the process that generated the waste, MSDSs, etc., used to determine the components of the waste; waste characteristics, including compatibility, reactivity, ignitability, and corrosivity; documentation of conversations that clarify omissions or discrepancies; copies of data from additional analytical tests requested or conducted by the 325 HWTUs personnel; and container information, including number of containers, volume capacity of each of the containers, and type of material. Modification Class: 123 Class 1 Class 1 Class 2 Class 3 Please check one of the Classes: A.1. Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Reviewed by RL Program Office: Submitted by Co-Operator: Reviewed by Ecology: Reviewed by Ecology:

Date

R. F. Christensen

A. K. Ikenberry

F. C. Jamison

E. R. Skinnarland

Date

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			Page 13 of 54
Hanford Facility RCRA Permit Modific			
Unit:	The second secon	mit Part & Chapter:	
325 Hazardous Waste Treatment Units	Part III, Cha	pter 6 and Attachme	nt 36
Description of Modification:			
Chapter 3.0, §3.4.2: Replace Chapter 3.0 with the attached Chapter 3.0.	pter 3.0.		
3.4.2 Verification			
•••			
Exceptions to physical screening for verification are:			
• Shielded, classified, and remote-handled dangerous mixed y however, 325 HWTUs staff must perform a more rigorous characterize the waste (<1 percent of current waste receipts)	locumentation review	d to be physically scre v and obtain the raw d	ened; ata to
Waste which cannot be verified at the 325 HWTUs must be containers which cannot be opened, are greater than 20 mre radionuclides for ALARA reasons, or will not fit into the NI consists of observing packaging of the waste.	m/hr, contain greater	than 100 nCi/g of train	asuranic
If no location can be found to do the physical screening, then no	screening is require	ed.	
 Wastes which are packaged by the 325 HWTUs authorized physical screening requirements (e.g., PNNL-packaged was 			
A bulk-waste stream (e.g., large volumes of waste from a single single event) may be verified by screening the allowable rate of			
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Modification Class: 123	Class 1	Class ¹ 1 Class 2	Class 3
Please check one of the Classes:	X		1 01430 5
Relevant WAC 173-303-830, Appendix I Modification:	A.1.		
Enter wording of the modification from WAC 173-303-830, Appendix			
A. General Permit Provisions			
Administrative and informational changes			
Submitted by Co-Operator: Reviewed by RL Program Office: We Washy 3 Dro3 RfChustensu 2/11/03	Reviewed by Ecology	r: Reviewed by	Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date E. R. Skinnarla	nd Date

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Hanford Facility RCRA Permit Modif				
Unit:	i .	Permit Part &		4.00
325 Hazardous Waste Treatment Units	Part III,	Chapter 6 and	Attachmen	136
Description of Modification:				
Chapter 3.0, §3.6: Replace Chapter 3.0 with the attached Chap	oter 3.0.			
3.6 SELECTING SAMPLING PROCEDURES				
•••				
The basic sampling procedure is as follows:	•	÷	A.	
Obtain samples using a precleaned sampler.	•			
• Fill sample containers in the following sequence: head-sp organics, metals, ignitability, pH (corrosivity), and reactive	ace volatile organi ity , and radiochen	ics, volatile org rical parameter	ganics, semi-v s .	olatile/
Label sample containers.	11: 1d		7	
Properly clean and decontaminate sample containers and t			L 4 m a le 411 -	no has and
 Custody-seal and blister-wrap all sample containers, place place samples in a durable ice-filled cooler or comparable receiving facility. Radioactive dose rate permitting If AL be used; otherwise, seals will be placed on secondary containers. 	receptacle for trar ARA practices allo	isport to the lal	ooratory or la	boratory
· Complete the chain-of-custody and request-for-analysis for	rms.			
• Review all paperwork and enclose the forms in a leak-tigh lid or attach paperwork to the container as appropriate.	ıt polyethylene baş	g taped to the u	inderside of t	he cooler
• Seal and mark the coolers or comparable receptacles in ac	cordance with app	licable DOT re	equirements.	
Transport coolers or appropriate containers to the analytical la	boratory or labora	tory receiving	facility.	•
•••		•		
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.	' <i>.</i>		
Enter wording of the modification from WAC 173-303-830, Append A. General Permit Provisions	ux i citation	•		
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Submitted by Co-Operator: Reviewed by RL Program Office:	Beviewed by Eco	ology:/	Reviewed by	Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date E. I	R. Skinnarlan	d Date

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Unit:	Permit Part & Chapter: Part III, Chapter 6 and Attachment 36
325 Hazardous Waste Treatment Units	Fait iii, Gliaptei Galiu Attaciniient 30
Description of Modification:	or 3 A
Chapter 3.0: Replace Chapter 3.0 with the attached Chapter	1 5.0.
Replaced 'radioactive' with 'mixed waste'.	
•	
Modification Class: 12 3	Class 1 Class ¹ I Class 2 Class
Please check one of the Classes:	Class 1 Class 2 Class
Relevant WAC 173-303-830, Appendix I Modification:	A.1.
Enter wording of the modification from WAC 173-303-830, Ap	
A. General Permit Provisions	
Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Program Office	Reviewed by Ecology/ Reviewed by Ecology:
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Hanford Facility RCRA Permit Modific				
Ünit:	Permit Part & Chapter:			
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36			t 36
Description of Modification:				
Chapter 3.0, §3.8.5: Replace Chapter 3.0 with the attached Chap	pter 3.0.		<u> </u>	
3.8.5 Data Collection/Sampling Objectives				
For determining the toxicity characteristics, SW-846 Method 13 Permittee may use the total metals test and assumption of completed sample size may also be utilized for As Low As Reason by the "Joint NRC/EPA Guidance on Testing Requirements of Medical FR 62079).	ete extractability ably-Achievable	as described: (ALARA) pu	in Method 13 rposes as recc	11. A
For a given parameter, analytical methods are selected and may accuracy, and quantitation limit (or minimum detectable activity be met or improved.	be modified as lo	pag as the app eet the regular	licable precisions or decision	on, on limit can
			,	
12.2			F	
Modification Class: 12 3	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix	A.1.			
A. General Permit Provisions 1. Administrative and informational changes	s i chauch			
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ecol	logy:	Reviewed by I	Scology:
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¹Class 1 modifications requiring prior Agency approval.

Date

R. F. Christensen

A. K. Ikenberry

F. C. Jamison

Date

E. R. Skinnarland

Date

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 3.0, §3.8.5: Replace Chapter 3.0 with the attached Chapter 3.0.

3.8.5 Data Collection/Sampling Objectives

For determining the toxicity characteristics, SW-846 Method 1311 should be followed wherever possible. The Permittee may use the total metals test and assumption of complete extractability as described in Method 1311. A reduced sample size may also be utilized for As Low As Reasonably Achievable (ALARA) purposes as recommended by the "Joint NRC/EPA Guidance on Testing Requirements of for Mixed Radioactive and Hazardous Waste" (62 FR 62079, 11/20/1997).

For a given parameter, analytical methods are selected and may be modified as long as the applicable precision, accuracy, and quantitation limit (or minimum detectable activity) necessary to meet the regulatory or decision limit can be met or improved.

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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Apper	idix I citation			
A. General Permit Provisions				
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Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Eco	ology:	Reviewed by	Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date E.	R. Skinnarlan	d Date

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		17 of 54					
Hanford Facility RCRA Permit Modification Notification Form							
Unit:	Permit Part & Chapter:						
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36						
Description of Modification:							
Chapter 3.0, §3.9: Replace Chapter 3.0 with the attached Chapt	ter 3.0.						
3.9 SELECTING WASTE RE-EVALUATION FREQU	JENCIES						
Exceptions to physical screening for verification are:							
 Shielded, classified, and remote-handled dangerous mixed v however, 325 HWTUs staff must perform a more rigorous of characterize the waste (< 1 percent of current waste receipts 	documentation review and obtain the raw data to						
 Wastes which cannot be verified at the 325 HWTUs must be containers which cannot be opened, are greater than 20 mres radionuclides for ALARA reasons, or will not fit into the NI 	em/h, contain greater than 100 nCi/gram of transura						
Analysis and characterization, as required by WAC 173-303-30 the 325 HWTUs to determine waste designation and characteris information, is reviewed each time a waste is accepted. The information when the waste stream changes, whichever comes first, or if the	stics. The characterization of the waste, based on to formation must be updated by the generator annual	his					
Modification Class: 123	Class 1 Class ¹ 1 Class 2 Class	ss 3					
Please check one of the Classes:	X						
Relevant WAC 173-303-830, Appendix I Modification:	A.1.						
Enter wording of the modification from WAC 173-303-830, Appendix	x I citation						

Submitted by Co-Operator:

A. K. Ikenberry

Administrative and informational changes

Date

Reviewed by RL Program Office:

R. F. Christensen

Reviewed by Ecology:

Date

F. C. Jamison

Reviewed by Ecology:

Date

E. R. Skinnarland

12/11/03

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Hanford Facility RCRA Permit Modifica	tion Notificat			
Unit:		Permit Part &		
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36			nt 36
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Figure 3.5. Location of 325 HW	TUs: Basemo	ent Areas		
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Hanford Facility RCRA Permit Modif	ication Notification Form
Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36
Description of Modification:	
Chapter 3.0, Figure 3.7, delete: Replace Chapter 3.0 with the	
Figure 3.7. Flow Chart of the	ne Confirmation Process
Deleted.	
	·
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Modification Class: 12 3	Class 1 Class ¹ 1 Class 2 Class 3
Please check one of the Classes:	X Class 1 Class 2 Class 3
Relevant WAC 173-303-830, Appendix I Modification:	A.1.
Enter wording of the modification from WAC 173-303-830, Appen	dix I citation
A. General Permit Provisions 1. Administrative and informational changes	
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ecology:
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison Date E. R. Skinnarland Date
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Unit:

Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.1.1.2: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.1.2 Shielded Analytical Laboratory Containers.

The primary function of the SAL is to conduct analysis of samples of waste streams collected at various locations on the Hanford Facility. The types of containers used to store dangerous waste in the SAL can vary widely from the original containers to laboratory glassware for sample analysis to 322-liter containers used to overpack smaller containers.

The containers used for storage or treatment of dangerous waste is compatible with the waste stored in the containers. Acceptable containers for acidic waste include plastic, steel lined with plastic, glass, and fiberglass containers. Acceptable containers for other waste include steel, glass, fiberglass, plastic, and steel lined with plastic. Table 4.1 provides an example of the types of container that could be used in the SAL, including the material of construction and the capacity of the container.

Rooms 32, 200, 201, 202, and 203 are used to store dangerous waste in containers. The back face of the SAL is typically used to store waste in the larger containers. These containers include various types of 208-liter steel containers (lined and unlined). Because of the nature of some dangerous mixed waste being stored at the SAL, it is often necessary that these standard 208-liter containers be modified. This modification ensures that the containers are specially shielded to reduce the hazard of the radioactive component of the dangerous waste stored in the container and are-be compliant with the ALARA criteria. These specially designed shielded containers are packaged to contain anywhere from 3.79 liters to 53 liters of waste depending on the amount of shielding required. The solid waste typically is packed in individual 3.79-liter to 4.73-liter containers before placement in the 208-liter shielded container. The shielding is accomplished by surrounding the small containers with concrete, lead, or other materials-to-reduce the dose rate produced by the radiological component of the dangerous waste.

All containers of dangerous waste are labeled to describe the contents of the container and the major hazards of the waste as required under WAC 173-303-395. Each container is assigned a unique identifying number. All containers used for onsite transfer are selected and labeled according to any applicable regulations, including 49 CFR are required by WAC 173-303-190.

All flammable liquid waste is segregated from any incompatible waste types and packaged in approved containers.

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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-	830, Appendix I citation		•	
A. General Permit Provisions				
 Administrative and informational changes 				
Submitted by Co-Operator: Reviewed by RL Progra	m Office: Reviewed by Ed	cology	Reviewed by E	cology:
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A. K. Ikenberry Date R. F. Christensen	Date F. C. Jamison	Date (E.	R. Skinnarland	Date
Enter wording of the modification from WAC 173-303- A. General Permit Provisions 1. Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Progra AMM Mayley SDLO3 PAChastenese	m Office: Reflexed by Ed			2/2

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³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Unit:

Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.1.2.1: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.2.1 Hazardous Waste Treatment Unit Container Management Practices.

Dangerous waste containers are inspected for integrity and adequate seals before being accepted at the HWTU. Waste received for storage and treatment from outside Rooms 520, 524 and 528 is either picked up by HWTU personnel or moved to Rooms 520, 524 and 528 in containers suitable for the waste. Depending on the container weight, size or number of containers to be moved, container(s) of dangerous waste are hand carried or moved on a platform or handcart, as appropriate, to Rooms 520, 524 or 528. 325 HWTUs staff moves the dangerous containers in accordance with 325 HWTUs collection procedures that address safety and hazard consideration. These procedures cover various waste types (transuranic (TRU) and low-level) and transportation modes. Unsupervised 325 HWTUs staff does not perform the operations, covered by a procedure, until they are formally trained on the procedure.

Containers in poor condition or inadequate for storage (e.g., damaged, not intact, or not securely sealed to prevent leakage) are not accepted at Rooms 520, 524 and 528. Examples of acceptable packaging include laboratory reagent bottles, U.S. Department of Transportation-approved containers, spray cans, sealed ampules, paint cans, leaking containers that have been over packed, etc. Unit operations personnel have the authority to determine whether a container is in poor condition or inadequate for storage using the criteria of WAC 173-303-190 and to use professional judgment to determine whether the packaging could leak during handling, storage, and/or treatment.

<u>Inspection of Containers.</u> A system of daily, weekly, monthly, and yearly inspections are in place to ensure container integrity, and to check for proper storage location, prevent capacity overrun, etc. Inspections are detailed in Attachment 36, Chapter 6.0, Section 6.2. Containers are inspected for integrity before acceptance at or transport to the HWTU. Containers found to be in poor condition or inadequate for storage are not accepted.

Container Handling. All HWTU staff is instructed in proper container handling and spill prevention safeguards as part of their training (Attachment 36, Chapter 8.0). Containers are kept closed except when adding or removing waste in accordance with WAC 173-303-630(5)(a). All personnel are trained and all operations are conducted to ensure that containers are not opened, handled, or stored in a manner that would cause the container to leak or rupture. All flammable cabinets containing dangerous waste are maintained with a minimum of 76 centimeters of aisle space in front of the doors. In room 520, the walk-in fume hood containing the 208-liter containers is designed to hold four 208-liter containers and has over 76 centimeters of aisle space; the containers are not stacked in the hood. In room 524, the walk-in fume hood containing the 208-liter containers is designed to hold two 208-liter containers and has over 76 centimeters of isle space in front of the doors; the containers are not stacked in the hood. Waste-handling operations can be conducted only when two or more persons are present in the unit or when the personnel present have immediate access to a communication device such as a telephone or hand-held radio.

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Modification Class: 123				Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:				X			
Relevant WAC 173-	303-830, A	Appendix I Modification	1;	A.1.			•
Enter wording of the	modificat	ion from WAC 173-303	-830, Appen	dix I citation			
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Submitted by Co-O		Reviewed by RL Progr	am Office:	Reviewed by Eco	OSYLAI.	Reviewed by Ec	ology:
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A. K. Ikenberry	Date		Date	F. C. Jamison	Date E. I	R. Skinnarland	Date

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III. Chapter 6 and Attachment 36 Description of Modification: Chapter 4.0, §4.1.2.2: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.2.2 Shielded Analytical Laboratory Container Management Practices.

Containers are not opened, handled, or stored in a manner that would cause the containers to leak or rupture. Containers will remain closed except when sampling, adding, or removing waste; or when analysis or treatment of the waste is ongoing. Containers of incompatible waste are segregated in the storage areas. In-cell containers will be stacked no more than four high and labels will not be obscured.

Inspection of Containers. A system of daily, weekly, monthly, and yearly inspections are in place to ensure container integrity, and to check for proper storage location, prevent capacity overrun, etc. Inspections are detailed in Attachment 36, Chapter 6.0, Section 6.2. Containers are inspected for integrity before acceptance at or transport to the SAL. Containers found to be in poor condition or inadequate for storage are not accepted.

Container Handling. All personnel are instructed in proper container-handling safeguards as part of their training (Attachment 36, Chapter 8.0). Containers are kept closed except when adding or removing waste in accordance with WAC 173-303-630(5)(a).

All container handling in the hot cells must be performed remotely with manipulators. Waste samples managed in the SAL enter the cells through rotating transfer wheels located in the back walls of cells 1, 2, and 6 and through a 17.8centimeter borehole in the back wall of cell 1. Waste samples are moved into and out of the cells at these locations according to approved procedures that vary with the radioactivity ALARA concerns with level of the sample. After analysis of the sample and necessary confirmation of results, compatible solid waste samples are consolidated into appropriate size containers often referred to as 'paint cans' and usually stored in cell 1. However, any of the cells can be used for storage of waste during operations.

After evaluation for treatment and the subsequent treatment, liquid waste is either transferred to the SAL tank (discussed in Section 4.2) or solidified and repackaged into shielded 208-liter containers and stored in the back face area of the SAL. Waste generated outside of the hot cells is placed into appropriately sized containers and stored until packaged for shipment or transfer. Waste-handling operations are conducted outside of the cells only when a minimum of two persons are present in the unit or when the personnel present has immediate access to a communication device such as a telephone or hand-held radio.

Modification Class: 123	Class 1	Class ¹ 1	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, App	endix I citation			
A. General Permit Provisions 1. Administrative and informational changes				
Submitted by Co-Operator: Reviewed by RL Program Office: A. K. Ikenberry Date R. F. Christensen Date	Reviewed by Eco F. C. Jamison	1_10TiV	Reviewed by E P Lavio R. Skinnarland	2/25/0

¹Class 1 modifications requiring prior Agency approval.

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Page 23 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 4.0, §4.1.7.2: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.7.2 Containment System Capacity for the Shielded Analytical Laboratory The largest container of liquid waste to be stored in the hot cells is a 7.6-liter container. The SAL tank is considered the secondary containment for the hot cells. The largest quantity of liquid that could be stored in the hot cells while maintaining adequate (10 percent of total volume) secondary containment would be 12,491 liters. The total amount of liquid to be stored in the hot cells is governed by the area constraint of the cells. Typically, the largest amount of liquid waste to be stored in the hot cells at one time is 75.8 liters. Liquid waste stored in Room 201 is stored in the fume hood. The waste is stored in glass or plastic bottles that are placed in individual plastic containers of a size that is sufficient to hold all of the contents of the inner vessel. The quantity of liquid waste stored in the hood is governed by the area constraint in the hood. Similarly, liquid waste stored in Room 202 is stored in glass or plastic bottles that are each placed in individual secondary containment. The floors of the front face and back face are constructed of concrete. The rear face floor in Rooms 202 and 203 is covered with epoxy paint. Floor drains flow to the retention process sewer (RPS) system, which has a diverter triggered by a radiation-monitor that diverts radioactive suspect mixed waste liquids detected in the RPS line to adversion basin for further handlingthe RLWS. Because of the small quantities of liquid stored in the front face and back face, any spill that is not contained by the plastic overpack probably would remain on the floor in a localized area until cleaned. Any liquid that managed to flow to the room drains would be conveyed by gravity to the RPS system or, depending on radionuclide-mixed waste content, to the RLWS and into the RLWT. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation

¹Class 1 modifications requiring prior Agency approval,

Administrative and informational changes

Date

Reviewed by RL Program Office:

R. F. Christensen

A. General Permit Provisions

Submitted by Co-Operator:

A. K. Ikenberry

F. C. Jamison

Reviewed by Ecology:

E. R. Skinnarland

12/11/03

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.1.1.1.2: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.1.1.2 Management of Incompatible Waste in Containers at the Shielded Analytical Laboratory

Incompatible waste in the SAL hot cells is managed by placing primary containers into a second container or tray capable of managing any leak or spilled material. Incompatible waste is never placed in the same container or in an unwashed container that previously held incompatible waste.

Treatment operations are conducted with minor amounts of waste to ensure that extreme heat or pressure, fire, or explosive or violent reactions do not occur. Potential releases would be controlled by the ventilation system that exhausts through two high-efficiency particulate air (HEPA) filters set in series, and due to the limited amount of waste in the SAL. These HEPA filters are part of the building exhaust system, which is maintained and inspected routinely in accordance with PNNL preventive maintenance standards. Radioactive and nonradioactive eEmissions from the 325 Building stack, and control devices for those emissions, are regulated by the Washington State Department of Health pursuant to Chapter 246-247 WAC, and the Washington State Department of Ecology (Ecology) pursuant to Chapters 173-400, 173-401, and 173-460 WAC, respectively. Air-pressure barriers for containment control are achieved by supplying air from areas of least contamination (i.e., offices) to areas of higher contamination (i.e., cells). These systems ensure proper emission flow through the HEPA filters.

Because waste normally is treated in the SAL hot cells, human exposure to the remote potential of mixing incompatible waste or reactive waste is minimal. Waste generated and treated within the SAL hot cells is stored within separate secondary containers, which eliminates the potential for combining incompatible waste. Waste stored in the front or back face of the SAL is packaged by hazard classes for transfer or is segregated in separate secondary containment.

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F. C. Jamison

Date E. R. Skinnarland

Date

Date R. F. Christensen

'A. K. Ikenberry

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Hanford Facility RCRA Permit Modific	Page 25 of 54 cation Notification Form
Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36
Description of Modification:	
Chapter 4.0, §4.2.1: Replace Chapter 4.0 with the attached Chapter 4.0	apter 4.0.
4.2.1 Shielded Analytical Laboratory Tank System	
The SAL is an analytical chemistry laboratory used primarily to streams for waste characterization. This work is conducted in SAL. Liquid waste generated during these operations is collect the SAL tank located in Room 32 of the basement directly belo 15.2 centimeters wide by 7.62 centimeters deep, traverses the fitrough is equipped with stainless steel grating to capture solids waste poured from analytical chemistry operations, mixed wast stored in the hot cells, and spills or leaks. The liquid waste is to that drains into the SAL tank. The waste is batch transferred fr system and into the RLWT. The SAL tank volume is 1,218 literates	six inter-connected hot cells that form the nucleus of the ted, treated if necessary and drained from the hot cells to we the hot cells. A stainless steel trough, ront of all six hot cells in which solution is poured. The during solution pour. The trough collects any liquid te treatment operations, other chemical and mixed waste ransferred through a common stainless steel pipeline rom the SAL tank to the radioactive_liquid mixed waste

Modification Class: 123 Class 1 Class 11 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Reviewed by RL Program Office: Submitted by Co-Operator: Reviewed by Ecology: Reviewed by Ecology: 12/11/03 A. K. Ikenberry R. F. Christensen Date F. C. Jamison E. R. Skinnarland Date Date

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Unit:

Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.2.1: Replace Chapter 4.0 with the attached Chapter 4.0.

4.2.1 Shielded Analytical Laboratory Tank System

The SAL is an analytical chemistry laboratory used primarily to prepare and analyze samples of dangerous waste streams for research and development activities and waste characterization. As noted in Section 3.3, storage in containers and bench-or small-scale treatment of dangerous waste also occurs in the SAL. This work is conducted in six inter-connected hot cells that form the nucleus of the SAL. Liquid waste generated during these operations is collected, treated if necessary and drained from the hot cells to the SAL tank located in Room 32 of the basement directly below the hot cells. A stainless steel trough, 15.2 centimeters wide by 7.62 centimeters deep, traverses the front of all six hot cells in which solution is poured. The trough is equipped with stainless steel grating to capture solids during solution pour. The trough collects any liquid waste poured from analytical chemistry operations, mixed waste treatment operations, other chemical and mixed waste stored in the hot cells, and spills or leaks. The liquid waste is transferred through a common stainless steel pipeline that drains into the SAL tank. The waste is batch transferred from the SAL tank to the radioactive-liquid mixed waste system and into the RLWT. The SAL tank volume is 1,218 liters and has a throughput of 80,000 liters per year.



Modification Class: 123	Class 1	Class	1 Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appen	dix I citation			· · · · · ·
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Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ecology:		Reviewed by Ecology:	
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date	E. R. Skinnarlan	d Date

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					Page 26 of 54	
Hanford Facility RO	CRA Permit Modifi	cation Notificat	ion Form			
Unit: 325 Hazardous Waste Treatme	nt Units	Permit Part & Chapter: Part III, Chapter 6 and Attachment 36				
Description of Modification:		· I	-	· · · · · · · · · · · · · · · · · · ·		
Chapter 4.0, §4.2.1.4: Replace Chapter 4.0	with the attached C	hapter 4.0.				
4.2.1.4 Marking or Labeling						
Due to the high radiation levels ALARA co is located in a locked room to prevent unnect to the room are labeled to meet the requiren from a distance of 15 meters and identifies a personnel, and the public of the major risks written placard identifying important radioa	cessary radiation ex nents of WAC 173- the waste. The labe associated with the	posurecomply was 303-395. The male adequately was waste being store	ith ALARA starking of the a cns employees, red within the t	andards. According to the contract of the cont	ess points s legible esponse	
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Reviewed by Ecology:

RL Program Office:

12/11/03

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.2.1.5: Replace Chapter 4.0 with the attached Chapter 4.0.

4.2.1.5 Ignitable, Reactive, and Incompatible Waste

Many different types of samples and waste materials will be brought to the SAL hot cells for analytical or research activities. These samples are accompanied by an internal PNNL documentation form that provides waste characterization information from the sample-generating unit. Chemical characterization provided in these forms is based on previous chemical analysis or process knowledge. The hazard potential includes exposure to radiationmixed waste, corrosive chemicals, and hazardous chemicals. All operations performed in the SAL hot cells are conducted by qualified operators following approved procedures. Typical hot cell analytic processes generate liquid waste that is highly acidic and/or that have a high chloride level. A small quantity of organic waste is generated and segregated prior to treatment or disposal. If heavy metals are present in the liquid waste before neutralization, the metals are precipitated as hydroxides incident to the neutralization and are filtered from the solution. If the chloride content of the liquid is above 0.01 Molar, the chlorides may be removed through silver nitrate precipitation. Therefore, waste solutions are not expected to be ignitable, reactive, or incompatible when transferred to the SAL tank.

The following factors ensure a safe and reliable tank system with regard to ignitable, reactive, and incompatible waste. The tank system operates at ambient temperatures and pressures; all waste added to the tank meets the RLWS waste acceptance criteria; the tank construction material is stainless steel; and the operators have past operating experience are trained in applicable procedures.

Modification Class: 123 Please check one of the Classes:	Class 1	Class 11	Class 2	Class 3
Relevant WAC 173-303-830, Appendix I Modification:	<u> </u>			
Enter wording of the modification from WAC 173-303-830, Appe	A.1.	· · · · · · · · · · · · · · · · · · ·	-	
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And Shuly Speco3 Tel Chrotenan 12/11/63 A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison		<i>P Warrs</i> R. Skinnarland	— — , —, ,

¹Class 1 modifications requiring prior Agency approval.

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Page 28 of 54 **Hanford Facility RCRA Permit Modification Notification Form** Unit Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 4.0, §4.2.2.2.1: Replace Chapter 4.0 with the attached Chapter 4.0. 4.2.2.2.1 **Requirements for Tank Systems** The secondary containment system for the RLWT consists of the stainless steel liner in the bottom of the concrete tank pit and 0.6 meters up the tank pit walls. The remaining portion of the concrete walls is painted with a chemically resistant coating and the boundary between the steel liner and the coating is sealed. The welded single-walled transfer piping will be visually inspected for leaks within 24 hours of a transfer. The 325 Building provides additional containment. The basement floors are concrete, and any liquid release remains in the immediate area until cleanup. The transfer piping from the SAL tank to the RLWT is single-walled, welded stainless steel pipe. Sections of the RLWT system piping have secondary containment where feasible. Secondary containment for the piping system consists of double-walled stainless steel pipe with outlet valves at the ends. Secondary containment piping was installed on the new line from Room 40A to the RLWT. Secondary containment piping was also installed on the line between Room 528 and the RLWT and from the RLWT to the cask loading station. Any leaks in the primary piping will cause liquid to gravity flow to the area of the pipe containing the outlet valve. An increase in radiological dose will be seen if liquid is collecting in the annulus. Modification Class: 123 Class 1 Class 11 Class 2 Class 3 Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

Submitted by Co-Operator:

A. K. Ikenbérry

Administrative and informational changes

Date

Reviewed by RL Program Office:

R. F. Christensen

F. C. Jamison

Reviewed by Ecology:

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Hanford Facility RCRA Permit Modifi	Page 29 of 54 cation Notification Form					
Unit: 325 Hazardous Waste Treatment Units	Permit Part & Chapter: Part III, Chapter 6 and Attachment 36					
Description of Modification: Chapter 4.0, §4.2.2.4: Replace Chapter 4.0 with the attached C	Chapter 4.0.					
4.2.2.4 Marking or Labeling						
Due to the high radiation levels <u>ALARA</u> concerns associated w located below grade in a sealed pit. Access points to the tank p WAC 173-303-395. The marking of the access points is legible The label will adequately warn employees, emergency responsively with the waste being stored within the tank. The RLWT also heriticality, and hazard concerns.	bit are labeled to meet the requirements of le from a distance of 15 meters and identifies the waste. se personnel, and the public of the major risks associated					
	!					
7. 10						

Modification Class: Class 1 Please check one of the Classes: A.1.

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: 12/11/03 R. F. Christensen F. C. Jamison A. K. Ikenberry Date E. R. Skinnarland Date

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 4.0, §4.2.2.5: Replace Chapter 4.0 with the attached Chapter 4.0.

4.2.2.5 Ignitable, Reactive, and Incompatible Waste

Many different types of samples and waste materials will be brought to the SAL hot cells, and the HWTU. These samples are accompanied by an internal PNNL documentation form that provides waste characterization information from the sample-generating unit. Chemical characterization provided in these forms is based on previous chemical analysis or process knowledge. The hazard potential includes exposure to-radiation mixed waste, corrosive/flammable chemicals, and hazardous chemicals.

Prior to transferring wastes to the RLWT system, the wastes are evaluated to ensure compatibility with the system and to preclude introduction of flammable or reactive waste in order to protect the integrity of the new RLWS tank. The RLWT system is equipped with treatment capabilities including neutralization and chloride removal. These treatment systems include chemical additive tanks and a tank agitator.

Based on analytical results and process knowledge of the 325 laboratories generating the waste, treatment of the SAL generated waste prior to discharge, and agitation and treatment capabilities in the RLWT, waste solutions are not expected to be ignitable, reactive, or incompatible.

The following factors ensure a safe and reliable tank system with regard to ignitable, reactive, and incompatible waste. The tank system operates at ambient temperatures and pressures, all waste added to the tank meets the RLWS waste acceptance criteria, the tank construction material is stainless steel, and the operators have past operating experience and are trained in the applicable procedures. Closure of the RLWT is addressed in Attachment 36, Chapter 11.0, Section 11.4.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			•
Enter wording of the modification from WAC 173-303-830, Ap	pendix I citation			
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Page 31 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 6.0, §6.1.1.1: Replace Chapter 6.0 with the attached Chapter 6.0. 6.1.1.1 24-Hour Surveillance System The entire Hanford Facility is a controlled access area [refer to HF RCRA Permit, Attachment 33, §6.1 General Information Portion, (DOE/RL-91-28)]. Modification Class: 123 Class 1 Class ¹1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: 12/11/03 A. K. Ikenbérry R. F. Christensen Date F. C. Jamison E. R. Skinnarland Date Date

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Page 32 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 6.0, §6.3.1.1: Replace Chapter 6.0 with the attached Chapter 6.0. **Internal Communications** 6.3.1.1 Because of the nature of activities that occur in the 300 Area, the potential exists for emergencies outside of the 325 HWTUs (e.g., criticality) that could impact operations and personnel. Fire alarm signals are located in each building throughout the 300 Area. The nearest emergency siren for 'area evacuation' and 'take cover' is located approximately 46 meters northwest of the 325 Building on top of the 326 Building and is audible in all parts of the 325 Building. Numerous criticality howlers (horns) are located throughout the 325 Building and are audible in all parts of the building. Internal communications to provide emergency instruction in the event of an emergency in the 325 HWTUs and in the 325 Building are listed below: Fire alarms Radiation alarms Differential pressure alarms (for the SAL) Differential pressure alarm in the glove box in Room 528 Leak detection alarms (for the SAL) Building-wide public address (PA) system Intercom system (for the SAL) Telephones The fire alarms are used to provide notification for immediate evacuation of the 325 Building. The fire alarms are initiated on activation of the manual pull boxes. heat detectors, and the sprinkler system. Fire alarm pull boxes are located as indicated in Figures 6.1 and 6.2. Radiation and aAir monitoring systems with alarms are located in the 325 HWTUs. The PA system is used for building-wide broadcasting of verbal emergency instructions to 325 Building personnel. The telephone system is used to provide verbal emergency instructions to 325 HWTUs personnel. The telephones also can be used to transmit verbally emergency information to personnel outside of the 325 HWTUs and to request emergency services. A network of telephones is provided throughout the 325 Building. Locations of telephones within the 325 HWTUs are shown in Figures 6.1 through 6.3. In addition to the telephone communication system, personnel have access to hand-held radios. The radios are available from the Building Manager. All of the radios transmit at the same frequency and are capable of summoning the PNNL Single-Point Contact in case of an emergency (DOE/RL 93-75). Hazardous Waste Treatment Unit There are two fire alarm pull boxes near the HWTU; one is located in the hall north of the entrance to Room 528, and one is in the hallway just east of the south entrance to Room 520. Rooms 520 and 528 are provided with smoke detectors that, upon activation, initiate the fire alarm system and close dampers between the two rooms and the corridor. Heat detectors are provided in the glove box in Room 528. There are two fire alarm bells just outside the HWTU. These fire alarm bells are located north of the entrance to Room 528 in the hall and east of the south entrance to Room 520 in the hall. Additionally, a fire alarm strobe is installed in Room 528. The locations of the fire pull boxes are shown in Figure 6.1. An alpha radiation monitor, located near the glove box in Room 528, is continually in use. When airborne contaminants or alpha radiation is detected, each of these monitors sounds a local alarm. Shielded Analytical Laboratory There are four fire alarm pull boxes provided in the SAL; three are in Room 201, and one is in Room 203. Additionally, a fire alarm pull box is located just outside of Room 32. Heat detectors are provided in the six large interconnected hot cells in the SAL. Several fire alarm bells are located throughout the 325 Building, including two fire alarm bells within the SAL (one each in Rooms 201 and 203). These alarms are audible at all locations within the SAL. The locations of the fire alarm bells are shown in Figure 6.2. The SAL is equipped with a beta continuous air monitor, which sounds a local alarm if airborne beta contamination is detected outside of the hot cells. Additionally, the SAL is provided with an area radiation monitor. If the radiation level outside of the hot cells reaches a set point, a local alarm sounds to alert personnel. There are three area radiation monitors: one directly above the tank yault, one in the control room, and one in the mechanical room. When general area radiation dose rises above a predetermined set point, the alarm for these monitors' sounds a local alarm. There is leak detection cable in the tank vault, the mechanical room, and at the point where transfer piping enters the tank vault. If the cables contact moisture, a local alarm is activated as well as an alarm on the Utility Operator's annunciator panel.

Modification Class: 123 Class 1 Class 11 Class 2 Class 3 Please check one of the Classes: \mathbf{X} Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Reviewed by RL Program Office: Submitted by Co-Operator: by Ecologyi Reviewed by Ecology: A. K. Ikenberry R. F. Christensen Date F. C. Jamison Date VE. R. Skinnarland

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 6.0, §6.3.1.3: Replace Chapter 6.0 with the attached Chapter 6.0.

6.3.1.3 Emergency Equipment

Emergency equipment available for trained 325 HWTUs personnel includes portable fire extinguishers, a fire suppression system, spill response equipment, and decontamination equipment.

With the exception of the hot cells, the entire building also is equipped with automatic sprinkler protection consisting of Schedule 40 steel pipe per ASTM A120 (ASTM 1991) and 150-pound malleable iron fittings per ANSI B16.3 (ANSI 1992). All components are UL-listed or FM-approved. The fire sprinkler system was designed and installed in accordance with NFPA 13 for 'ordinary hazard' (NFPA 1996).

Absorbent pillows are capable of absorbing small quantities of spilled inorganic and organic liquids and can be used to contain temporarily any spills of these materials. Their rated absorption capacities range from 250 to 4,000 milliliters.

Mercury spill kits are capable of cleaning up to 25 milliliter of spilled mercury. Acid, caustic, and solvent spill kits contain the materials necessary to clean up small spills of acids, bases, and organic solvents. The absorbent kits in the SAL contain absorbent pads and other materials needed to temporarily contain and clean up small chemical spills.

The appropriate spill kits can be applied, respectively, to small acid and base spills for neutralization during cleanup efforts. The caustic neutralizer has similar capabilities for neutralizing small quantities of spilled bases. If needed, the Hanford Fire Department provides additional emergency equipment.

Hazardous Waste Treatment Unit

Two portable 4.5 kilogram ABC fire extinguishers are available adjacent to the HWTU as shown in Figure 6.1. The portable fire extinguishers are located in the hall outside the entrance to Room 524 and in the hall south of the south entrance to Room 520.

Additionally, for decontamination of high levels of radioactivity, an emergency shower is located in Room 601, which is in close proximity to the HWTU. For chemical contamination needs, another emergency shower is located in the hall outside the entrance to Room 524 (Figure 6.2). Emergency eyewash is located in Rooms 520 and 528. Any contaminated water will be contained and cleaned up in accordance with the 325 HWTU contingency plan. Effluents are managed via the RPS or RLW system.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
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Hanford Facility RCRA Permit Modification	ation Natificati	Earm		Page 34 of 54
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325 Hazardous Waste Treatment Units	Part III.	Chapter 6 an		nt 36
Description of Modification:				
Chapter 6.0, §6.4.1: Replace Chapter 6.0 with the attached Chap	oter 6.0.			
6.4.1 Unloading Operations				
Procedures have been developed to prevent hazards and to minimaccidental opening of containers during the transfer of waste to tacceptance to ensure that the waste is in appropriate containers as Inspection of containers before acceptance minimizes the potent potential for spills during waste handling also is minimized using waste items can be unloaded by hand.	the 325 HWTUs and that the cont ial for spills dur	. All waste is ainers are in going unloading	inspected be ood condition operations.	fore 1. Гhe
The volumes of dangerous waste entering and exiting the SAL a Chapter 4.0) and, have double secondary containment because o waste materials. Any spill from such containers will be contained	f the packaging	requirements i	for the radioa	
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Date

Submitted by Co-Operator:

A. K. Ikenberry

F. C. Jamison

Reviewed by RL Program Office:

R. F. Christensen

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Page 35 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 6.0, §6.4.5: Replace Chapter 6.0 with the attached Chapter 6.0. 6.4.5 **Personal Protection Equipment** Protective clothing and equipment are provided to employees during normal and emergency operations. Protection levels for emergencies are determined either in consultation with an industrial hygienist, or applicable radiological control work permits (RWP) or applicable operating procedure. Per the identified work requirements, protective clothing and equipment is available for all staff working at the SAL. Protective clothing and equipment available at the SAL include, but are not limited to, the following: **RLWT System** Laboratory coats (325 Building – Mens/womens change room) Shoe covers (325 Building – Mens/womens change room) Surgeon gloves (Control Room) Chemical-resistant gloves (Control Room) Chemical-resistant aprons (Control Room) Face shields (Control Room) Hard hats (Control Room) Safety glasses (Control Room).

The protective equipment storage areas are well stocked at all times. This equipment is replaced periodically as it is used. The above inventory reflects each type of personal protective equipment that typically is present at the 325 HWTUs. Additional radiological and non-radiological personal protective equipment can be obtained, as needed, from storage locations and sources outside of the 325 HWTUs. These areas include the personal protective equipment storage area in the 700 hall men's and women's change rooms, Room 529, and the men's and women's change rooms in the south end (first floor) of the 325 Building. This personal protective equipment also can be obtained from onsite suppliers for the 325 HWTUs

Modification Class: 123
Please check one of the Classes:

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

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A. K. Ikenberry	Date	R. F. Christensen	Date	F. C. Jamison	Date	E. R. Skinnarland	Date

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Page 36 of 54 **Hanford Facility RCRA Permit Modification Notification Form** Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 6.0, §6.5.3: Replace Chapter 6.0 with the attached Chapter 6.0. 6.5.3 Management of Incompatible Waste in Tank Systems Waste discharged to the SAL tank from the hot cells typically consists of the same type of waste managed in the hot cells. Prior to discharge to the SAL tank, waste may be analyzed for pH, anions, metals, radionuclides mixed waste, and total organic carbon to determine if the waste meets the waste acceptance criteria for the RLWS. Sampling and analysis would be used if sufficient process knowledge were not available to characterize the waste for RLWS waste acceptance criteria purposes. The waste is treated in the SAL tank, if necessary. Process knowledge will be used when possible for transfers to the RLWT from the SAL tank, HWTU, and Room 40. The waste in the RLWT will be sampled and treated for pH and chlorine as needed to protect the integrity of the tank. Sampling will be performed before each batch of waste is transferred from the RLWT to the DSTs. Modification Class: 123 Class 1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

Submitted by Co-Operator:

A. K. Ikenberry

Administrative and informational changes

Date

R. F. Christensen

12/11/03

Date

F. C. Jamison

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Hanford Facility RCRA Permit Modification Notification Form

Unit: Permit Part & Chapter:

325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36

Description of Modification:
Chapter 11.0, §11.1.3: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1.3 Maximum Extent of Operation

The 325 HWTUs consist of three units, all within the 325 Building, located in the 300 Area on the Hanford Facility. The SAL is located in Rooms 32, 200, 201, 202, and 203. The HWTU is located in Rooms 520, 524 and 528, and the firewater containment tank located in the basement beneath Room 520. The RLW System currently collects radioactive-liquid waste from the SAL and Rooms 520 and 528 of the HWTU. The RLWT collects radioactive-liquid waste from the SAL, RLW System, Rooms 520 and 528 of the HWTU, and the other hot cells in the 325 Building. The RLW system runs throughout the 325 Building as depicted on Figures 2-3 and 2-4. The SAL, the HWTU RLW System, and the RLWT represent the maximum extent of operations for the 325 HWTUs as indicated in the Part A, Form 3, permit application. If additional operations are added to the unit, the closure plan will be modified to reflect closure of the new areas.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
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F. C. Jamison

E. R. Skinnarland

Date

Date

A. K. Ikenberry

Date

R. F. Christensen

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.2.2: Replace Chapter 11.0 with the attached Chapter 11.0.

11.2.2 Removing Dangerous Waste

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the HWTU at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the HWTU.

All dangerous waste will be placed in containers that meet specifications stated in Attachment 36, Chapter 4.0, Section 4.1. To the extent possible, waste will be bulked into larger containers. If waste is bulked, containers will be emptied in compliance with WAC 173-303-160 so that the containers can be considered a solid nondangerous waste. Small-quantity laboratory chemicals that can't be bulked will be packaged in lab pack containers in compliance with the requirements of WAC 173-303-161. All containers of dangerous waste will be manifested and transferred to the custody of a dangerous waste transporter having a proper dangerous waste identification number. All containers of dangerous waste will be transferred to an appropriate onsite unit permitted to manage the waste and that will ensure proper handling and disposal.

Equipment and structural components in the HWTU requiring decontamination will be decontaminated using the methods described in Section 11.2.3. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.2.4 to determine whether the residue is mixed waste, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be managed in accordance with all applicable requirements of WAC 173-303-170 through 173-303-203. [Reference WAC 173-303-610(5)].

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X	Class 2	Class 3	
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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.2.3: Replace Chapter 11.0 with the attached Chapter 11.0.

11.2.3 Decontaminating Structures, Equipment, and Soil

All equipment used for decontamination will be used exclusively within the HWTU during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and analyzed as described in Section 11.2.4. Any disposable equipment will be placed in a container and disposed at an appropriate unit based on the status of the waste as dangerous, mixed waste, radioactive, or nonhazardous. Dangerous waste placed in containers will be managed in accordance with Attachment 36, Chapter 4.0.

The radiological conditions of the unit will be established before starting closure activities.—If a 'clean debris surface' is present at the time that closure activities are started, the area will be considered clean closed. In this case, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a high-efficiency particulate air (HEPA) filter. The vacuum cleaner bag containing captured particulates will be disposed appropriately. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be disposed appropriately. HEPA filters from installed equipment and vacuum cleaners will be assessed for radiological condition, designated and managed as described in Section 11.2.4. The volume of solid waste (e.g., personal protective clothing/equipment, wipes, HEPA filters, vacuum bags) generated will depend on the extent of decontamination necessary.

The radiological condition of the firewater containment tank will be established before starting closure activities. The internal surface of the firewater containment tank will be visually inspected. If a 'clean debris surface' is present at the beginning of the closure process, the firewater containment tank will be considered clean closed. If the surface of the liner does not meet the 'clean debris surface' standard then the firewater containment tank for the HWTU and ancillary equipment could be flushed with water, and if flushed, the water could be tested for dangerous waste constituents. Detergents, solvents, or a dilute acid wash could be required to remove constituents from the tank. In all cases, the final decontamination rinse water will be tested. To demonstrate decontamination, the interior surface of the tank liner will be visually inspected to determine if the 'clean debris surface' standard has been achieved. If this proves to be impractical or impossible, the tank liner will be removed and disposed. Runoff of decontamination solutions and wastewater will be prevented either by performing cleaning activities within existing containment structures or within portable containment pans or by surrounding the decontamination area with plastic and absorbent pads.

Modification Class: 1	.23.			Class 1	Class 1	Class 2	Class 3
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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.2.4: Replace Chapter 11.0 with the attached Chapter 11.0.

11.2.4 Management of Decontamination Waste from HWTU

Decontamination waste from the HWTU will be placed in containers and sampled to determine disposal requirements. Samples from each container will be analyzed for the following:

- Corrosivity using the methods described in EPA SW-846 (Methods 9040/9045)
- Ignitability using methods described in EPA SW-846 (Methods 1010/1020)
- <u>Toxicity characteristic</u> using the Toxicity Characteristic Leaching Procedure (TCLP) described in 40 CFR 261 Appendix II (Method 1311) [including analysis for metals; volatile organics; and semivolatile organics, which includes chlorinated pesticides, using methods identified in the waste analysis plan (Attachment 36, Chapter 3.0]

•Total radioactivity using gross alpha, gross beta, and gamma scan (Method 9310).

Other analyses might be performed based on process knowledge to determine the presence of a listed waste. The results of sample analyses will be used to determine how to dispose of decontamination waste. (Background levels will be determined by analysis of the tap water used for makeup of the decontamination solutions.) The results of the ignitability, corrosivity, and toxicity characteristic analyses will be used to determine if the waste is characteristic dangerous waste (WAC 173-303-090).—The results of the radiological analyses will be used to determine whether any of the waste generated during the HWTU closure is low-level liquid radioactive waste or mixed waste. Depending on designation, decontamination waste will be managed as follows:

- Dangerous waste Manifested and shipped and/or transferred to a permitted TSD unit
- Mixed waste Manifested and shipped to a TSD unit as available, or treated and disposed onsite
- <u>Low-level radioactive waste and nonregulated waste</u> Handled in accordance with the Liquid Effluent Consent Order (No. DE91NM-177) and Milestone M-17 of the Tri-Party Agreement.

Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Page 42 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.2.5: Replace Chapter 11.0 with the attached Chapter 11.0. 11.2.5 Inspection to Identify Extent of Decontamination/Removal and to Verify Achievement of Closure Standard The radiological condition of the unit will be determined before starting closure activities.—Attainment of a 'clean debris surface' will be verified by a visual inspection in accordance with the standard that states, "A clean debris surface means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices and pits shall be limited to no more than 5 percent of each square inch of surface area." (40 CFR 268.45, Table 1). Areas of degraded surface material, such as significant concrete cracking or heavily gouged steel, will be evaluated by non-destructive or destructive means to determine depth of significant surface defects, amount of contamination present in the defects, and to determine if environmental contamination has resulted from the material defect. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes

Date

Submitted by Co-Operator:

A. K. Ikenberry

Reviewed by Ecology:

Date UE. R. Skinnarland

Date

C. Jamison

Reviewed by RL Program Office:

R. F. Christensen

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.3.2: Replace Chapter 11.0 with the attached Chapter 11.0.

11.3.2 Removing Dangerous Waste

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present at the SAL at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations at the SAL.

At the SAL, liquid waste will be treated and packaged to meet requirements for disposal in onsite units or will be transferred through the SAL tank to the RLW system and RLWT system. Liquid dangerous waste in the SAL tank will be transferred to the RLW system and then to the RLWT system. If, for some reason, the RLWT-system closes before the SAL tank, the contents of the SAL tank will be loaded into containers and managed in accordance with Section 11.2.2. Any other suitable RCRA-permitted units that might exist when the SAL tank is closed could be used as a storage alternative. Liquid waste handling, packaging, transportation, and manifesting procedures will follow those used during normal operation of the SAL.

Equipment and structural components in the 325 HWTUs will be decontaminated using appropriate methods described in Sections 11.2.3 and 11.3.3. If decontamination is impracticable, components will be removed, designated, and disposed of. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.3.6 to determine whether the residue is mixed waste, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appe	ndix I citation			
A. General Permit Provisions				
Administrative and informational changes				
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A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date E. I	R. Skinnarland	

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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.3.3: Replace Chapter 11.0 with the attached Chapter 11.0.

11.3.3 Decontaminating Equipment, Structures, and Soils

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.3.6. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactive, or nondangerous, or mixed waste.

Initial gross decontamination of the hot cells will be necessary before entry of personnel into the hot cells for the visual inspection of the cell liners. ALARA concerns The high radiation levels in the cells will preclude personnel entry into the cells, and configuration of the cells precludes thorough visual inspection of the interior surfaces of the cells. This decontamination will be accomplished using high-pressure water sprays or other appropriate decontamination techniques operated by means of the manipulators.

If a 'clean debris surface' is present at the time that closure activities are started, decontamination procedures will consist of sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particulates will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe also will be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

Moderate time will be required for setup of the decontamination equipment. However, labor requirements for the process will be extensive for radioactively contaminated areas with ALARA concerns and particularly for the hot cells where radiation levels will be very high, and will, at least initially, require remote operations. Moderate time also will be required for packaging debris, dismantling, and removing cleaning equipment. Moderate quantities of wastewater will be generated by this procedure. However, if a 'clean debris surface' is not present, more sophisticated decontamination methods will be implemented. The dangerous waste management portions of the SAL will be treated extensively using an appropriate decontamination technique (40 CFR 268.45, Table 1). The ceiling, walls, and floor will be treated by applying the decontamination technique to remove all residues from the surfaces. The contaminated waste generated by this activity will be collected in the SAL and will be managed as described in Section 11.3.6. The volume of waste generated by this procedure is anticipated to be on the order of 2,000 liters.

Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: F. C. Jamison R. F. Christensen A. K. Ikenberry Date Date E. R. Skinnarland

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 11.0, §11.3.4: Replace Chapter 11.0 with the attached Chapter 11.0.

11.3.4 Decontamination of Hot Cell Trough

The collection trough in the interconnected SAL hot cells will be decontaminated using an appropriate decontamination technique (40 CFR 268.45, Table 1). Any wastewater collected in each sump from the cleaning process will be collected in the SAL waste tank system and analyzed to determine if the wastewater is a dangerous waste, it will be managed and disposed at an appropriate permitted facility. If the wastewater is not a dangerous waste, the wastewater will be discharged to an appropriate radioactive waste disposal facility. The decontamination of the hot cell collection trough should take moderate time and should generate less than 500 liters of waste. Additional decontamination techniques, such as grit blasting or chemical cleaning, could be used if necessary. The volume of solid waste generated will depend on the extent of decontamination necessary.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	- X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appe	endix I citation			
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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.4.1: Replace Chapter 11.0 with the attached Chapter 11.0.

11.4.1 Removing Dangerous Waste

Closure or partial closure activities will be initiated by removal of the dangerous waste inventory present in the RLW system at the time of closure or partial closure. Inventory removal procedures will be identical to the waste handling, treating, packaging, and manifesting activities associated with normal permitted operations of the RLW system.

Liquid waste will be transferred from the RLW system to the transfer cask and transported to the DSTs. Liquid waste handling, packaging, transportation, and manifesting procedures will follow those used during normal operation of the RLW system.

Equipment and structural components in the 325 HWTUs will be decontaminated using the methods described in Sections 11.2.3, 11.3.3 and 11.4.3. If decontamination is impractical, components will be removed, designated, and disposed of in accordance with WAC 173-303. All waste residues resulting from decontamination will be sampled and analyzed as described in Section 11.4.4 to determine whether the residue is mixed, dangerous, radioactive, or nonhazardous waste and to discern how to dispose of the waste properly. All residues will be removed from the units and transferred to a TSD unit having the necessary permits for proper treatment, storage, and/or disposal. Residues containing listed waste, having dangerous characteristics, or exceeding dangerous waste designation limits will be disposed of properly.

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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
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Hanford Facility RCRA Permit Modification Notification Form

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Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 11.0, §11.4.2: Replace Chapter 11.0 with the attached Chapter 11.0.

11.4.2 Decontaminating Equipment, Structures, and Soils

All equipment and structures in dangerous waste handling, storage, and treatment areas will be decontaminated at the time of closure or partial closure except equipment and structures that exhibit a 'clean debris surface' before starting closure activities. These will be considered decontaminated and receive no further decontamination (refer to Section 11.3.3).

There are two sections of piping that-were being utilized in the-former RLW system but are not utilized with the new RLWT system. Both sections of the former RLW system piping are located in the northeastern portion of the building; one runs in a north-south direction and the other runs in an east-west direction. These sections of piping are capped and left in place. Decontamination and other closure activities for these abandoned pipelines will be conducted along with final closure activities for the RLWT system.

Decontamination methods for equipment and structures will be selected from appropriate technologies such as washing with water, high-pressure water jet scarifiers, abrasive blasting, aquablasting, or mechanical concrete scrubbers and scarifiers. Following the decontamination process, a visual inspection for a 'clean debris surface' will be conducted to monitor the effectiveness of the decontamination work.

All equipment used for decontamination will be used exclusively within the units during closure activities. When all structural and equipment decontamination is complete, and when the equipment is no longer necessary, the equipment will be decontaminated before the final closure of the units. All cleaning and decontamination waste will be collected and packaged as described in Section 11.4.4. Any disposable equipment will be containerized and disposed of based on the status of the waste as dangerous, radioactivemixed waste, or nondangerous waste.

The radiological conditions of the unit will be established before starting closure activities. If a 'clean debris surface' is present at the time that closure activities are started, the area will be considered clean closed. For these instances, housekeeping measures may be undertaken and could include sweeping, dusting, vacuuming, and wiping with soap and water. Brushing or sweeping will be used to clean up coarse debris. Vacuuming will be performed using a commercial or industrial vacuum equipped with a HEPA filter. The vacuum cleaner bag containing captured particles will be appropriately disposed. Dust wiping will be done with a damp cloth or wipe (soaked with water) to remove dust from surfaces that cannot be decontaminated with a vacuum. The cloth or wipe will also be appropriately disposed. The volume of solid waste generated will depend on the extent of decontamination necessary.

Modification Class Please check one of		y:		Class 1	Class 11	Class 2	Class 3
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A. K. Ikenberry	Date	R. F. Christensen	Date	F. C. Jamison	Date E.	R. Skinnarlan	d Date

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, §11.4.4: Replace Chapter 11.0 with the attached Chapter 11.0.

11.4.4 Management of Decontamination Waste from RLWT System

Decontamination liquid from the RLWT system will be sent to the DSTs via the approved shielded cask system. All nonliquid waste generated during decontamination operations and the equipment used (e.g., sandblast grit, personal protective equipment and clothing, disposable equipment) will be collected in 208-liter, open-head containers and dispositioned according to the following criteria: material that is dangerous waste (only) will be disposed of at an offsite TSD Facility; mixed waste will be transferred to the Central Waste Complex for interim storage and future treatment or disposal; and low level radioactive mixed waste will be disposed onsite in the 200 Area. Samples of the waste could be collected and analyzed as described in Section 11.2.4.

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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Hanford Facility RCRA Permit Modit	fication Notification Form
Unit:	Permit Part & Chapter:
325 Hazardous Waste Treatment Units	Part III, Chapter 6 and Attachment 36
Description of Modification:	
Chapter 11.0, §11.5: Replace Chapter 11.0 with the attached	Chapter 11.0.
11.5 MAXIMUM WASTE INVENTORY	

The 325 HWTUs are used to store and treat a variety of different research-and-operations-related dangerous waste. The maximum inventory of waste that could be present at any one time in the 325 HWTUs is constrained by the following factors.

- The maximum inventory of dangerous waste stored in containers will not exceed the limits listed in the Part A, Form 3, permit application
- The maximum inventory of dangerous waste in tank storage in the SAL will not exceed 1.218 liters in accordance with the design capacity of the SAL and the Attachment 36, Chapter 1.0, Part A, Form 3, permit application

The total amount of dangerous waste at any one time will not exceed Uniform Building Code hazardous material quantity restrictions (Attachment 36, Chapter 4.0).

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830,	Appendix I citation			
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Hanford Facility RCRA Permit Modific	ation Notificati	on Form	· .	Page 50 of 54
Unit: Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachmer			nt 36	
Description of Modification:		·.		
Chapter 11.0, §11.6: Replace Chapter 11.0 with the attached Cl	napter 11.0.			
11.6 SCHEDULE FOR CLOSURE				ï
Completion of closure activities is expected to take up to two yes waste at the units. This extended time for closure is necessary of radiological contamination present in the facility, particularly the to protect the environment will continue to operate during the closure DOE-RL at least 45 days before the final closure activities at 11.2, and a detailed schedule of closure activities is provided in	tue to <u>ALARA contents</u> of the six interconner osure process. It is to begin. Clo	oncernsthe hig cted hot cells. Ecology person	th radiation le Safety systemanel will be no	wels and ns needed otified by
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Enter wording of the modification from WAC 173-303-830, Appendix I citation				

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Administrative and informational changes

Date

Reviewed by RL Program Office:

R. F. Christensen

A. General Permit Provisions

A. K. Ikenberry

F. C. Jamison

Reviewed by Ecology:

Date

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

Permit Part & Chapter:

325 Hazardous Waste Treatment Units

Part III, Chapter 6 and Attachment 36

Description of Modification:

Chapter 11.0, §11.7: Replace Chapter 11.0 with the attached Chapter 11.0.

11.7 EXTENSION FOR CLOSURE TIME

An extension of the time for removal of the inventory of dangerous waste from the unit designated for closure is requested for the 325 HWTUs. The <u>ALARA concernshigh levels of radioactive materials</u> that are present, particularly in the six interconnected hot cells, necessitate this extension. The expected time needed to remove all waste from the units is two years.

The extended period for removal of the inventory of dangerous waste is needed to accomplish the procedures that are needed to safely work with the <u>ALARA concerns</u>levels of radioactive materials that are present in the SAL. All activities required to remove the inventory of dangerous waste will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The removal of the inventory of dangerous waste will be conducted following procedures that are designed to be protective of the workers and the environment.

An extension of the closure time is requested for the 325 HWTUs. The <u>ALARA concernshigh levels of radioactive</u> materials that are present, particularly in the six interconnected hot cells, necessitate this extension. The expected time needed to close the units is two years.

Decontamination of hot cells is a slow and labor-intensive operation, complicated by the fact that most of the work must be done remotely using manipulators because of <u>ALARA concerns</u>the very high radiation levels that are present in the hot cells. Even after <u>ALARA concerns</u> radiation levels in the hot cells have been reduced enough to allow personnel entry, work is hampered by the extensive personal protective equipment that staff are required to wear, and the strict procedures that are enforced to ensure that both workers and the environment are protected from contamination—with radioactive material.

Most equipment located in the hot cells must be packaged in shielded containers. Typically, this requires extensive remotely operated size reduction of the equipment. Removal of hot cell equipment, such as is located in the SAL, usually takes many months to a year or more to complete.

The extended closure period is needed to accomplish the procedures that are needed to safely work with <u>ALARA</u> concerns the levels of radioactive materials that are present in the SAL. All closure activities will be conducted in accordance with applicable permit conditions and all safety systems will continue to be operated. The closure activities will be conducted following procedures that are designed to be protective of the workers and the environment.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830,	Appendix I citation			
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Page 52 of 54 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: 325 Hazardous Waste Treatment Units Part III, Chapter 6 and Attachment 36 Description of Modification: Chapter 11.0, Table 11.1: Replace Chapter 11.0 with the attached Chapter 11.0. Table 11.1. Analysis Parameters for Closure of the 325 Hazardous Waste Treatment Units Parameter and EPA SW-846a Analytical Method Equipment and Decontaminatio Soil Samples Structures Wipe n Waste Water (if determined to be contaminated) Samples Samples pH for corrosivity (Method 9040 or 9045) X X Ignitability (Method 1010 or 1020) TCLP (Extraction Method 1311) X Metals (Method 6000 and/or 7000 series) Volatile organics (Method 8240) Semivolatile organics (Method 8270) Chlorinated pesticides (Method 8080) Total metals: antimony, arsenic, beryllium, boron, X X cadmium, chromium, lead, mercury, nickel, selenium, silver, and thallium (Method 6000 and/or 7000 series) Volatile organics (Method 8240) Semivolatile organics (Method 8270) X X Radioactivity •Gross alpha (Method 9310) •Gross beta (Method 9310) SW-846 = EPA Test Methods for Evaluating Solid Wastes (Third Edition, latest update, 1986). -Characterization of radionuclides is not within the scope of WAC 173-303 or of this permit application. The information on radionuclides is provided for general knowledge where appropriate. Modification Class: 123 Class 1 Class 11 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: ex Christenan 12/1/03 80e-03

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Hanford Facility RCRA Permit Modific			
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Hanford Facility RCRA Permit Modi	fication Notificatio	n Form		Page 54 of 54
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Modification Class: 12.3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Apper A. General Permit Provisions	ICHA I CHAHON	•		•
Administrative and informational changes				
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ecol	ogy:	Reviewed by	Ecology:
New Daying 8 Per 03 RKChundenson 12/11/03				
A. K. Ikenberry Date R. F. Christensen Date	F. C. Jamison	Date I	. R. Skinnarlar	nd Date

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Hanford Facility RCRA Permit Modification Notification Forms

PUREX Storage Tunnels Part III, Chapter 3 Attachment 28

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December 31, 2003

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	Hanford Facility RCRA Permi	L MOUINCARION NOU		t & Chapter:	
	Unit:	. Dant III			. ተ ኃዐ
	PUREX Storage Tunnels	Part III,	Chapter 3	and Attachmen	1 ∠8
	Modification:				
Hanford Facil	ity RCRA Permit, III.3.A:	PTER 3			
		orage Tunnels			
The PUREX St designated 218 unit.	orage Tunnels are mixed waste storage units con E-14, and Tunnel Number 2, designated 218-E-	sisting of two undergrou	and railroad to	tunnels: Tunnel Nuting Conditions fo	ımbeı r this
III.3.A	COMPLIANCE WITH APPROVED PERMIT	APPLICATION			
The Permittees	shall comply with all requirements set forth in A pecified in Condition III.3.B, if any exist. All su	ttachment 28, including	all Class 1 include	Modifications, and d in these portions	the are
<u>ATTACHMEN</u>	<u>T 28:</u>			•	
Chapter 1.0	Part A, Form 3, Permit Application, Revision December 31, 2003 September 30, 2002			•	
Chapter 2.0	Unit Description, from Class 1 Modification for	or fluarter ending <u>Decen</u>	iber 31, 2003	September 30, 20	02
Chapter 3.0	Waste Analysis Plan, from Class 1 Modification	, 🔾			
Chapter 4.0	Process Information, from Class 1 Modification			<u>:003</u> S eptember 30,	2002
Chapter 6.0	Procedures to Prevent Hazards, from Class 1 N December 31, 2005 September 30, 2402				
Chapter 7.0	Contingency Plan, dated Max 1993, from Class 2003				<u>June</u>
Chapter 8.0	Personnel Training, from Class Modification				
Chapter 10.0	Waste Minimization, from Class 1 Modification			2002	
Chapter 11.0	Closure and Financial Assurance, from Class <u>December 31, 2003</u> September 30, 2002			• •	÷
Chapter 12.0	Reporting and Recordkeeping, from Class 1 N				
Chapter-13.0	Other Federal and State Laws, from Class 1 M	· ·	ending Septer	mber 30, 2002	•
III.3.B	AMENDMENTS TO THE APPROVED PER				
III.3.B.1	(None Required)Permittees must comply with Facility. The facility and unit-specific record! Attachment 33, General Information Portion, RCRA Permit conditions.	keeping requirements ar	e distinguish	ed in the RCRA Pe	rmit,
Modification		Class 1	Class 1	Class 2	C
	one of the classes:	X			<u> </u>
	C 173-303-830, Appendix I Modification:	A.1.			
	of the modification from WAC 173-303-830, Appendix 1 Woodineation.				
A. General P	ermit Provisions ninistrative and informational changes	<i>p</i>		· · · · · · · · · · · · · · · · · · ·	
Submitted by	O-Operator: Reviewed by RL Program Off	Reviewed by I	Ecology:	Reviewed by	Ecolo
1 MIM	, CITE WELL CANDERS				

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Mo	dification Noti	fication Forr	n	-
Unit:		Permit Part &	Chapter:	
PUREX Storage Tunnels	Part III,	Chapter 3 an	d Attachmei	nt 28
Description of Modification:	••			
Chapter 1.0, remove and replace Chapter 1.0 with attached Cha	pter 1.0.			
Figures were marked OFFICAL USE ONLY.				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			<u> </u>
Enter wording of the modification from WAC 173-303-830, Appendi				
A. General Permit Provisions				
Administrative and informational changes			·	
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by E		Reviewed by	Ecology:
M 1 / 12/17/15	tW. Dond	3-504	/	in 3/25/10
M. B. Lackey Date M. S. McCormick Date	R. Bond	Date E.	R. Skinnarlan	id Date
DEC 19 2003	•		•	

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Page 4 of 47 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: Part III. Chapter 3 and Attachment 28 **PUREX Storage Tunnels** Description of Modification: Chapter 2.0, §2.1, remove and replace Chapter 2.0 with attached Chapter 2.0. PUREX STORAGE TUNNELS 2.1 The PUREX Storage Tunnels branch off from the railroad tunnel and extend southward from the east end of the PUREX Plant (Figure 2-1). The tunnels are used for storage of mixed waste from the PUREX Plant and from other onsite sources. Each storage tunnel is isolated from the railroad tunnel by a water-fillable shielding door. There are no electrical utilities, water lines, drains, fire detection or suppression systems, radiation monitoring, or communication systems provided inside the PUREX Storage Tunnels. Material selected for storage is loaded on railcars modified to serve as both transport and storage platforms. Normally, a remote-controlled, battery-powered locomotive was used to position the railcar in the storage tunnel. In the past and possibly in the future, other remote movers, e.g., standard locomotive with a string of railcar spacers, power winch, etc., have or could be used to position a railcar into the tunnel or to withdraw a car from the tunnel. The railcar storage positions are numbered sequentially, commencing with Position 1 that abuts the railstop bumper at the south end of each tunnel. Position 2 is the location of the railcar that abuts the railcar in Position 1 and so forth. The railcars and material remain in the storage tunnel until retrieval is required. Each railcar is retrievable; however, because the railcars are stored on a single, dead-end railroad track, the railcars can be removed only in reverse order (i.e., last in, first out). Transfers into or out of the PUREX Storage Tunnels were infrequent and were not manpower-intensive operations. A more detailed description of the operation of the PUREX Storage Tunnels is provided in Attachment 28, Chapter 4.0.

Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
				·

Relevant WAC 173-303-830, Appendix I Modification:

A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by 20-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology:

| M. B. Lackey | Date | M. S. McCormick | Date | R. Bond | Date | E. R. Skinnarland | Date | Date

DEC 1 @ 2003

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Mo	dification Notif	cation Fo	rm .	· · · · · · · · · · · · · · · · · · ·
Unit:		Permit Part		
PUREX Storage Tunnels	Part III, Chapte	r 3 and Atta	chment 28	
Description of Modification:	٠		٠,,٠٠٠	
Chapter 2.0, §2.1.1, remove and replace Chapter 2.0 with attack	hed Chapter 2.0.	.*		
2.1.1 Tunnel Number 1 (218-E-14)		,	/	
Construction of Tunnel Number 1 was completed in 1956 and consists of thr (Figure 2-3). The water-fillable door is located at the north end of Tunnel Ni tunnel. The door is 7.5 meters high, 6.6 meters wide, and 2.1 meters thick, a that the door can be filled with water to act as a radiation-shield when the door the water must be pumped from the door before the door can be raised.	umber 1 and separates nd is constructed of 1.3	the storage tur 3 centimeter st	mel from the PUR eel plate. The doo	EX railroad or is hollow so
Above the door is a reinforced concrete structure into which the door is raise door are located on the top of this concrete structure.	d to open the tunnel. I	Electric hoists	used for opening a	nd closing the
Pumps and valves used for filling and draining the door are located in a room the PUREX Plant on the north wall at the east end of the pipe and operating	n northwest of the door gallery.	closure. Oper	rational controls a	re located in
Beneath the water-fillable door is a sump with a 15.2-centimeter drain that co Shell Tank System. The drain was sealed as part of deactivation activities.	onnects to a railroad tu	nnel sump; wa	iter was pumped to	the Double-
The storage area is that portion of the tunnel that extends southward from the 109.1 meters long, 6.7 meters high, and 5.9 meters wide. Ceiling and walls a creosote pressure-treated Douglas fir timbers arranged side by side. The first reinforced concrete (Section AA of Figure 2-3). A 40.8-kilogram-mineral-stimbers before placement of 2.4 meters of earth fill. The earth coyer serves a timbers that form the walls rest on reinforced concrete footings 0.9 meter with gravel bed. The space between the ties is filled to top of-tie with gravel balls ensure that the railcars remain in their storage position. A railcar bumper is 1. The capacity of the storage area is eight, 12.8-meter-long railcars.	are 35.6 centimeters that 30.5 meters of the easterface roofing materials protection from the edge by 0.3 meter thick. ast. The tracks are on located 2.4 meters from	ick and construct wall are con- l was used to collements and as The floor consumate 1.0 percent do not the south end	acted of 30.5- by 3 structed of 0.9-met over the exterior s a radiation shielding sists of a railroad to lownward slope to 1 of the tracks to act	5.6-centimeter ter-thick urface of the g. The rack laid on a the south to ct as a stop.
From 1962 through 1980, nine pipe risers were installed through the roof of used for wood sampling of the tunnel ceiling timbers. The other two risers we environment of the tunnel. Currently, all risers are capped.	vere used to obtain air	samples and te	imperature data of	the internal
The results of the wood strength survey (conducted in 1980) concluded that present day wood. Design calculations performed at the time also found the conducted in Tunnel Number 1 did not identify the presence of any combust carbon dioxide at about 0.3 percent. The reported temperature in Tunnel Nu An independent evaluation of the 1980 data collected by Silvan was conduct Storage Tunnel Number 1 (Hand and Stevens 1991). This study concluded tattack should be minimal and found that the tunnel timbers structurally shou values used and agreed with the findings of the Silvan study. In addition, the concluded that the methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be methods used by Silvan to calculate the loss of timber structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should be minimal and found that the tunnel timbers structurally should	tunnel to be within satible gases and found on the modern of the mains consisted in 1991 to further each any degradation of the sound. This study verified ength were sufficiently were sufficiently.	To limits (Silvance) Exygen levels to tent-at 15.6 °C Valuate the street ting of the treated ting Yelso confirm I that the timber conservative to the conservative The time time of the time of time of the time of time of the time of ti	n 1980). Air samp be at about 21 pe C (Rambosek and F uctural integrity of abors because of de ed the reasonables as are structurally to accurately detern	ling reent with oster 1972). PUREX ecay or insect less of the sound and mine the
Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
	A.1.			
Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Append		······································		· · · · · · · · · · · · · · · · · · ·
A. General Permit Provisions	III I VIMILUII			
1. Administrative and informational changes	· ·			
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Ec	ology:	Reviewed by	Ecology:

R. Bond

E.R. Skinnarland

Date

Date

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3				Page 6 of 47
Hanford Facility RCRA Permit Mo	dification Notific	ation Fo	rm	
Unit: Permit Part & Chapter:				
PUREX Storage Tunnels	Part III, C	hapter 3	and Attachmen	t 28
Description of Modification:	• • • • • • • • • • • • • • • • • • • •			/ 1
Chapter 2.0, §2.1.2, remove and replace Chapter 2.0 with attach	ned Chapter 2.0.			
2.1.2 Tunnel Number 2 (218-E-15)				
Construction of Tunnel Number 2 was started and completed in 1964. functional areas: the water-fillable door, the storage area, and the ven Tunnel Number 1 as follows.	it shaft. Construction	of Tunnel	Number 2 differs	from that of
A combination of steel and reinforced concrete was used in the concrete than wood timbers, as used in Tunnel Number 1.			or Tunnel Numbe	r 2 (Figure
Tunnel Number 2 is longer, having a storage capacity of five time				
The floor of Tunnel Number 2, outboard of the railroad ties, sloperailroad bed, whereas the floor in Tunnel Number 1 remains flat.	es upward to a height all the way out to the	t of approxi sidewalls.	imately 1.8 meter	s above the
The railroad tunnel approach to Tunnel Number 2 angles eastwar (Figure 2-1). The approach to Tunnel Number 1 is a straight extended center-line distance between the two tunnels is approximately 18.	ension southward from	vard to para m the PUR	llel Tunnel Numb EX Plant. Center	er 1 -line to
The physical structure of the water-fillable door at the north end of Todoor for Tunnel Number 1. The water-fillable door for Tunnel Numb of the water-fillable door for Tunnel Number (Pigure 2.3).	unnel Number 2 esser er 2 is approximately	ntially is id / 57.9 mete	entical to the waters south and 18.3	er-fillable meters east
Controls for operation of the water-fillable door are located above the (Attachment 28, Chapter 4.0, Figure 4.1). Attachment 28, Chapter 4.1 Number 2 water-fillable door. Presently, the door is empty and there door are presented in Attachment 28, Chapter 4.0.	0 provides additional	operationa	l information on t	he Tunnel
The storage area of Tunnel Number 2 is that portion of the tunnel extraorder of this portion of Tunnel Number 2 consists of a 10.4-meter diameter supported by internal I-beam wales attached to external, reinforced covery in width from 0.4 to 1.8 meters. The arches are spaced on 4.8-meters forced concrete grade beams approximately 1.8 meters wide by 1. Tunnel Number 2. The interior and exterior surfaces of the steel roof corrosion. The entire storage area is covered with 2.4 meters of earth	, steel (0.5 centimeter oncrete arches. The catering centers. This se .2 meters thick (one catering contents).	r plate), ser concrete are micircular on each sid tuminous ce	nicircular-shaped ches are 0.4-meter structure is suppo e) that run the full pating compound	roof, thick and rted on length of
			•	
Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			· · · · · · · · · · · · · · · · · ·
	A.1.			
Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix				
A. General Permit Provisions	ix I Chaudh			•
Administrative and informational changes	,			
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Eco	logy:	Reviewed by	Ecology:
M. B. Lackey Date M. S. McCormick Date	R. Bond	Date	E.R. Skinnarlan	d Date

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				• Page 7 of 47
Hanford Facility RCRA Permit Mod	dification Not	ification For	·	rage r of 4r
Unit:		Permit Part 8		
PUREX Storage Tunnels	Part III	, Chapter 3 ai	nd Attachmer	nt 28
Description of Modification:				
Chapter 3.0, remove and replace Chapter 3.0 with attached Chapter 3.0.	oter 3.0.			
3.0 WASTE ANALYSIS PLAN	-			
This chapter provides information on the chemical, biological, a stored in the PUREX Storage Tunnels. Waste stored in the tunnadioactive contamination. Because the dangerous waste is an improved as a mixed waste. The PUREX Storage Tunne employees and the environment from mixed waste.	els is <u>stored an</u> ntegral part of r	d managed as a adioactively co	mixed waste-a ontaminated m	s a result of aterial, this
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
Enter wording of the modification from WAC 173-303-830, Appendix A. General Permit Provisions 1. Administrative and informational changes	x I citation			
Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by I	Ecology:	Reviewed by	Ecology:

¹Class 1 modifications requiring prior Agency approval.

63

Date

DEC 1 9 2003

M. S. McCormick

R. Bond

E.R. Skinnarland

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Page 8 of 47 **Hanford Facility RCRA Permit Modification Notification Form** Permit Part & Chapter: **PUREX Storage Tunnels** Part III. Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.3, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.3 FACILITY DESCRIPTION This waste analysis plan (WAP) has been prepared for the PUREX Storage Tunnels, located on the Hanford Facility, Richland, Washington. This WAP applies to all mixed waste (containing both radioactive and dangerous components) regulated by Washington Administrative Code (WAC) 173-303 that is transferred to and/or contained in the PUREX Storage Tunnels. The PUREX Storage Tunnels branch off from the railroad tunnel and extend southward from the east end of the PUREX Plant. The tunnels are used for storage of radioactive and mixed waste from the PUREX Plant and from other onsite sources. Each storage tunnel is isolated from the railroad tunnel by a water-fillable shielding door. There are no electrical utilities, water lines. drains, fire detection or suppression systems, radiation monitoring, or communication systems provided inside the PUREX Storage Tunnels. Construction of Tunnel Number 1 was completed in 1956. The Tunnel has three areas, the water-fillable door, the storage area. and the vent shaft. The water-fillable door is located at the north end of Tunnel Number 1 and separates the storage tunnel from the railroad tunnel. The door is 7.5 meters high, 6.6 meters wide, and 2.1 meters thick, and is constructed of 1.3-centimeter steel plate. The door is hollow so that the door can be filled with water to act as a radiation-shield when the door is in the down (closed) position. If the door is filled with water, the water must be pumped from the door before the door can be raised. Above the door is a reinforced concrete structure in which the door is raised to open the tunnel. Electric hoists used for opening and closing the door are located on the top of this concrete\structure. The storage area is that portion of the tunnel that extends southward from the water-fillable door. Inside dimensions of Tunnel Number 1 are 109.1 meters long, 6.7 meters high, and 5.9 meters wide. Ceiling and walls are 35.6-centimeters thick and constructed of 30.5- by 35.6-centimeter creosote pressure-treated Douglas fir timbers arranged side by side. The first 30.5 meters of the east wall are constructed of 0.9-meter-thick reinforced concrete. A 40.8-kilogram mineral-surface roofing material was used to cover the exterior surface of the timbers before placement of 2.4 meters of earth fill. The earth cover serves as protection from the elements and as radiation-shielding. The timbers that form the walls rest on reinforced concrete footings 0.9 meter wide by 0.3 meter thick. The floor consists of a rathroad track/laid on a gravel bed. The space between the ties is filled to top-of-tie with gravel ballast. The tracks are on a 1.0 percent downward slope to the south to ensure that the railcars remain in their storage position. A railcar bumper is located 2.4 meters from the south end of the tracks to act as a stop. The capacity of the storage area is eight, 12.8-meter-long railcars. The storage area of Tunnel Number 2 is that portion of the tunnel extending southward from the water-fillable door. Construction of this portion of Tunnel Number 2 consists of a 10.4-meter diameter, steel (0.5 centimeter plate), and semicircular-shaped roof, supported by internal I-beam wales attached to external, reinforced concrete arches. The concrete arches are 0.4 meter thick and vary in width from 0.4 to 1.8 meters. The arches are spaced on 4.8-meter centers. This semicircular structure is supported on reinforced concrete grade beams approximately 1.8 meters wide by 1.2 meters thick (one on each side) that run the full length of Tunnel Number 2. The interior and exterior surfaces of the steel roof are coated with a bituminous coating compound to inhibit corrosion. The entire storage area is covered with 2.4 meters of earth fill to serve as radiation-shielding. Modification Class: 123 Class 1 Class 11 Class 2 Class 3 Please check one of the Classes A.1. Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes

¹Class 1 modifications requiring prior Agency approval.

17/03

Date

Submitted by & Operator:

M. B. Lackey

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

DEC 7 9 2003

Reviewed by RL Program Office:

M. S. McCormick

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

Date

E.R. Skinnarland

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Page 9 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.3.2, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.3.2 Physical Characterization of Material to be Stored Physical characterization of waste includes an evaluation of the following physical properties: Length, width, and height Gross weight and volume Preferred orientation for transport and storage Presence of dangerous waste constituents. Information sources used in physical characterization include equipment fabrication and installation drawings, operational records, and process knowledge. Physical characterization provides information necessary to describe the waste material. Such information also is used to design and fabricate, if required, supports on the railcar. Before removal from service, the equipment could be flushed to minimize loss of products, to reduce radioactive contamination, and to reduce dangerous waste constituents present in a residual heel to nonregulated levels. When equipment is flushed, analysis of the rinsate is used to determine when these goals have been achieved. Modification Class: Class 11 Class I Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation

¹ Class 1 modifications requiring prior Agency approval.

Date

Administrative and informational changes

A. General Permit Provisions

Submitted & Co-Operator;

M. B. Lackey

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

Reviewed by RL Program Office:

M. S. McCormick

Date

Reviewed by Ecology:

R. Bond

Reviewed by Ecology:

Date # E.R. Skinnarland

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

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Hanford Facility RCRA Permit N	logification Not			
Unit:	Do-4 III	Permit Part 8	· .	-4.00
PUREX Storage Tunnels	Part III,	Chapter 3 ar	nd Attachme	nt 28
Description of Modification:				
Chapter 3.0, §3.4, remove and replace Chapter 3.0 with attac	hed Chapter 3.0.			
3.4 IDENTIFICATION/CLASSIFICATION AND MANAGED WITHIN THE PUREX STORA	_	OF DANG	EROUS WA	ASTE
Because dangerous waste is an integral part of radioactively mixed waste. Table 3-1 contains an approximation of the tot				
Storage Tunnels.	ai amount inventor	y or waste sto	ea wimin me	FUKEA
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Modification Class: 123	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:	X	Class 1	Class 2	Class 3
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Relevant WAC 173-303-830, Appendix I Modification:	A.1.		· · · · · · · · · · · · · · · · · · ·	
inter wording of the modification from WAC 173-303-830, Apper	dix I citation	·		
A. General Permit Provisions 1. Administrative and informational changes				
Submitted by To-Operator: Reviewed by RL Program Office:	Reviewed by E	colomy	Reviewoji by	Ecology
	A/R	Coules !	4) III	٠ .
M. B. Lackey Date M. S. McCormick Date	R. Bond	- 6/2/01 E	R. Skinnarlan	<u> 6-22</u>
M. B. Lackey Date M. S. McCormick Date	<u> </u>	Date & E	.r. okimianan	ıd Date

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: PUREX Storage Tunnels Part III, Chapter 3 and Attachment 28

Description of Modification:

Chapter 3.0, §3.5.1, remove and replace Chapter 3.0 with attached Chapter 3.0.

3.5.1 Waste Identification

A prerequisite step in proper waste management is to address whether waste being considered for management within the PUREX Storage Tunnels falls within the scope of this unit's permit. This includes identifying any dangerous waste in accordance with regulatory and permit requirements and applicability of any land disposal restrictions.

This section provides information on how the chemical and physical characteristics of the mixed waste currently stored in the PUREX Storage Tunnels were determined so that the waste is stored and managed properly.

Regulated material presently stored in the PUREX Storage Tunnels contains the following dangerous waste:

- · Lead
- Mercury
- · Silver and silver salts
- Chromium
- Cadmium
- Barium
- Mineral oil.

Because the dangerous waste is an integral part of radioactively contaminated material; this material is managed as a mixed waste. Table 3-1-provides an approximation of the total amount of waste contained in the PUREX-Storage Tunnels.

Storage of non-PUREX Plant waste is reviewed on a case-by-case basis. Sampling, chemical analysis, process knowledge (as discussed in the following section), and/or inventory information from waste tracking forms provided from other onsite sources are required to confirm the characteristics and quantities of mixed waste to be stored. Future waste and dangerous constituents might not be in the same configuration or form as described in the following sections.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	Х			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.		. '*	
Enter wording of the modification from WAC 173-303-830, Appel A. General Permit Provisions	ndix I citation			
Administrative and informational changes				·
Submitted by Co-Operator; Reviewed by RL Program Office	Reviewed by I	cology:	Reviewed by	Ecology:

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Page 12 of 47 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.5.1.1, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.5.1.1 Lead Lead stored was used in various capacities during past Hanford Facility operations. Primary functions of lead included use as weights, counterweights, and radiation-shielding. Often the lead is encased in steel (carbon or stainless) to facilitate its attachment to various types of equipment. Lead exhibits the characteristic of toxicity as determined by the toxicity characteristics leaching procedure and is designated D008 [WAC 173-303-090(8)]. The quantity of lead present could produce an extract greater than 500 milligrams per liter should the lead be exposed to a leachate. However, because the bulk of the lead is encased in steel. is stored inside a weather-tight structure, and is elevated above floor level on railcars that isolate the lead from other materials stored, the potential for exposure of bare lead to a leachate is considered negligible. Sampling and chemical analysis is not performed on lead associated with the material placed in the PUREX Storage Tunnels. Therefore, the accuracy of the estimate on the amount of lead presently stored in each tunnel is limited to the data available from process knowledge. Counterweights on equipment dunnage and lead used for shielding cannot be quantified by existing historical records and are not included for lead listed on Table 3-1. However, if removed from the tunnels, the material will be examined and any suspect attachments will be removed, evaluated, and disposed of in accordance with established methods.

Modification Class: 123	
Please check one of the Cl	asses:

Class 1 Class ¹1 Class 2 Class 3

Relevant WAC 173-303-830, Appendix I Modification:

A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: M. B. Lackey Date M. S. McCormick Date R. Bond Date E.R. Skinnarland Date

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

Permit Part & Chapter:

PUREX Storage Tunnels

Part III, Chapter 3 and Attachment 28

Description of Modification:

Chapter 3.0, §3.5.1.2, remove and replace Chapter 3.0 with attached Chapter 3.0.

3.5.1.2 Mercury

Mercury is contained within thermowells that are an integral part of irradiated spent reactor fuel dissolvers used at the PUREX Plant. The dissolvers are large 304L stainless steel process vessels that are approximately 2.7 meters in diameter, 7.3 meters tall, and weigh approximately 26,309 kilograms. The outer shell is constructed of a 1-centimeterthick plate. The dissolvers were used in decladding and dissolving irradiated spent reactor fuel in the PUREX Plant.

Depending on the specific dissolver in question, 19.1 or 45.4 kilograms of mercury (1.4 or 1.77 liters) were poured in each of the two thermowells per dissolver (38.2 or 90.8 kilograms total per dissolver) following vertical installation of the dissolvers inside the PUREX canyon and before the dissolver was installed in a process cell. The mercury served to transfer heat from the dissolver interior to the thermohm temperature sensor mounted within the thermowell. This mercury remains within the thermowells of discarded dissolvers. In preparation for storage, the thermohms were removed and the upper end of each thermowell was plugged with a 304L stainless steel nozzle plug. In storage, the discarded dissolver rests in an inclined position in a cradle on the railcar. The mercury contained in the thermowells remains in the lower portion of each thermowell and, under normal conditions, is never in contact with the mechanical closure on the nozzle end of the thermowell.

Mercury exhibits the characteristic of toxicity as determined by the toxicity characteristics leaching procedure and is designated D009 [WAC 173-303-090(8)].

The potential for mercury to become exposed to leachate is considered negligible. The PUREX Storage Tunnels are designed and constructed as weather-tight structures. Further, the mercury is encased in a stainless steel pipe within a stainless steel vessel that is stored on a railcar above the floor level of the tunnels. Therefore, exposure of the mercury stored in the tunnels to leachate is not considered a credible occurrence.

Sampling and chemical analysis is not performed on mercury associated with the dissolvers stored in Tunnel Number 2. The quantity of mercury present in each thermowell is documented on Table 3.1.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.		·	,
Enter wording of the modification from WAC 173-303-830, Appe	ndix I citation			
A. General Permit Provisions				
Administrative and informational changes				
Submitted by Co-Operator: Reviewed by RL Program Office	Reviewed by Ec	ology:	Reviewed by I	Ecology:
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M. B. Lackey Date M. S. McCormick Date	7 17 D	- //	R. Skinnarland	<i> </i>

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E.R. Skinnarland

Date'

DEC 19 1393

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

PUREX Storage Tunnels

Permit Part & Chapter:

Part III, Chapter 3 and Attachment 28

Almara

Description of Modification:

Chapter 3.0, §3.5.1.3, remove and replace Chapter 3.0 with attached Chapter 3.0.

3.5.1.3 Silver

Silver, mostly in the form of silver salts deposited on unglazed ceramic packing, is contained within the discarded silver reactors stored in Tunnel Number 2. The silver reactors were used to remove radioactive iodine from the offgas streams of the irradiated spent reactor fuel dissolvers. The reactor vessel is approximately 1.4 meters in diameter by 4.1 meters tall and is constructed of 1-centimeter 304L stainless steel. The vessel contains two 1.2-meter-deep backs of packing. Each bed consists of a 30.5-centimeter depth of 2.5-centimeter unglazed ceramic saddles topped with a 0.6-meter depth of 1.3-centimeter unglazed ceramic saddles. The two beds are separated vertically by a distance of about 0.6 meter, and each bed rests on a support made of stainless steel angles and coarse screen. The packing was coated initially with 113.4 kilograms quisilver nitrate used for iodine retention. Nozzles on the top of the reactor were provided to allow flushing and/or regeneration/of the packing with silver nitrate solution as the need arose.

Because of competing reactions, which include conversion of silver mitrate to silver iodide, reduction of silver nitrate to metallic silver, and formation of silver chloride, the packing of a stored silver reactor contains a mixture of silver nitrate, silver halides, and silver fines.

Silver salts exhibit the characteristics of toxicity as determined by the toxicity characteristics leaching procedure and are designated D011 [WAC 173-303-090(8)]. Silver salts exhibit the characteristic of ignitability and are designated as D001 [WAC 173-303-090(5)].

The potential of silver, including silver salts, stored in the UREX Storage Tunnels to become exposed to leachate is considered negligible. Silver is contained within a stainless steel vessel, stored inside a weather-tight structure, and elevated above floor level on a railcar. Therefore, exposure of the silver stored in the tunnels to leachate is not considered a credible occurrence. In addition, the contained silver is isolated from contact with any combustibles; therefore, the possibility of ignition is considered extremely remote.

Provisions for taking samples of the packing were not provided in the design of the vessels. Therefore, sampling and chemical analysis are not performed for silver salts before placing a silver reactor in storage. However, for accountability, the total silver content (Table 3.1) is considered silver nitrate, the salt that exhibits the characteristics of both ignitability and toxicity.

The quantity of silver salts contained within a discarded silver reactor is a function of silver nitrate regeneration history. Operating records (process knowledge) of regenerations and flushes are used to estimate the total accumulation of silver within each reactor.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Relevant WAC 173-303-830, Appendix I Modification:

. A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: Hold Conf. 624-64 M. B. Lackey Date M. S. McCormick Date R. Bond Date E.R. Skinnarland Date

DEC 192333

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Page 15 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.5.1.4, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.5.1.4 Chromium Presently, chromium stored in Tunnel Number 2 is contained within a failed concentrator removed from the PUREX Plant, and within stainless steel containers received from the 324 Building. The concentrator is a vertical tube structure that was used to concentrate aqueous streams. from the final uranium cycle, final plutonium cycles, final neptunium eyeles, and condensate from the acid recovery system for recycle Following service, the concentrator was inspected and found to contain silicate solids with high levels of chromium from the corresion of stainless steel. The existence of chromium within the 324 Building waste was determined through process knowledge. Chromium exhibits the characteristic of toxicity as determined by the toxicity characteristics leacking procedure and is designated D007 [WAC 173-303-090(8)]. The potential for the chromium stored in Tunnel Number 2 to become exposed to leachate is considered negligible. Tunnel Number 2 is designed and constructed to be weather-tight. Further, the chromium is encased within stainless steel vessels and containers that are stored on railcars above the floor level of the tunnel. Therefore, exposure of the chronfium stored in the tunnel to leachate is not considered a credible occurrence. The quantity of chromium within the concentrator was estimated by calculating the volume of silicate solids and the percentage of chromium within the silicate solids. The quantity of chromium in the 324 Building waste was based on process knowledge.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification:

A.I.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

	Submitted by Co-Operator:	Reviewed by RL Program	n Office:	Reviewed by Eco	logy:	Reviewed by Ecol	ogy:
1	M. B. Lackey Date	M. S. McCormick	Date	R. Bond	Date	E.R. Skinnarland	Date
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Page 16 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.5.1.5, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.5.1.5 Cadmium Presently, cadmium stored in the PUREX Storage Tunnel Number 2 is associated with radiation-shielding and with a dissolver moderator removed from the PUREX Plant, and within stainless steel containers received from the 324 Building. The cadmium was used to shield equipment from radiation and consists of sheets of the metal attached to lead, both of which could be encased in steel. The cadmium received from the 3/24 Building was used in waste technology research and development programs. The dissolvers are annular vessels that are geometrically favorable for erificality safety. The dissolvers were placed over cadmium lined (neutron absorbers) moderators for additional eriticality safety. The moderator is a centrally located, cylindrical, cadmium-jacketed 0.08-centimeter-thick concrete 15.2-centimeter-thick neutron absorber. The moderators are approximately 4.4 meters tall by approximately 1.5/meters outer diameter. Cadmium exhibits the characteristic of toxicity as determined by the toxicity characteristics leaching procedure and is designated D006 [WAC 173-303-090(8)]. If exposed to a leachate, the quantity of cadmium present could produce an extract having a concentration of greater than or equal to 1/milligram per liter, but less than 100 milligrams per liter: therefore, the mixed waste is managed as a WTD2 [WAC/173-303-100(5)]. The potential for the cadmium stored in Tunnel Number 2 to become exposed to leachate is considered negligible. Tunnel Number 2 is designed and constructed to be weather-tight. Further, the cadmium is stored on railcars above the floor level of the tunnel. Therefore, exposure of the cadmium stored in the tunnel to leachate is not considered a credible occurrence.

Modification Class: 123	Class 1	Class ¹ I	Class 2	Class 3
Please check one of the Classes:	Х			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by 06-Operator]	m Office;	Reviewed by Ed	cology:	Reviewed by Ecol	ogy:
M. B. Lackey Dar	e M. S. McCormick	Date	R. Bond	Date	E.R. Skinnarland	Date
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¹Class 1 modifications requiring prior Agency approval.

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Page 17 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.5.1.9, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.5.1.9 Operational Considerations Sufficient information must be available to ensure that incoming waste meets operational acceptance limits, e.g., physical size, ALARA concernsradiation limits, and WAC 173-303 requirements. These operating specifications are limits and controls imposed on a process or operation that, if violated, could jeopardize the safety of personnel, and could damage equipment, facilities, or the environment. Operating specifications have been established from operating experience, process knowledge, and calculations. Modification Class: 123 Class 11 Class 1 Class 2 Class 3

Administrative and informational changes

Reviewed by RL Program Office:

Reviewed by Ecology:

X

A.1.

Reviewed by Ecology:

Submitted by/Co-Operator:

M. B. Lackey

A. General Permit Provisions

Please check one of the Classes:

Date

Relevant WAC 173-303-830, Appendix I Modification:

M. S. McCormick

Enter wording of the modification from WAC 173-303-830, Appendix I citation

R. Bond

Date FE.R. Skinnarland

DEC 19 2003

Date

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Page 18 of 47						
Hanford Facility RCRA Permit Mo	odification Not					
Unit:			art & Chapter:			
PUREX Storage Tunnels	Part III	, Chapter :	3 and Attachme	nt 28		
Description of Modification:						
Chapter 3.0, §3.5.2.3, remove and replace Chapter 3.0 with att	ached Chapter 3.0	0.				
3.5.2.3 Dangerous Waste Characteristics		•		•		
The third category of dangerous waste designation is "Dangero characteristics are as follows.	ous Waste Charac	teristics" (WAC 1 73 -303-0	90). The		
• Characteristic of Ignitability – Although the solid silver nitrate has not been tested in accordance with Appendix F of 49 CFR 173, the waste is assumed to be an oxidizer as specified in 49 CFR 173, 27(a). Therefore, the silver nitrate waste is assumed to exhibit the characteristic of ignitability under WAC 273-303-090(5) and is designated as D001.						
• Characteristic of Corrosivity – Some of the material stored within the tunnels either has contained or has been in contact with corrosive liquids. The standard operating procedure has been to flush vessels with water to recover as much special nuclear material as practical. In addition, flushing removes much of the radioactive contamination, minimizing the spread of contamination during handling. Currently, the final aqueous rinse is sampled and analyzed to confirm that the pH is greater than 2 and less than 12.5. Therefore, the waste stored in the PUREX Storage Tunnels is not designated as corrosive waste.						
 Characteristic of Reactivity – The waste stored in the tunnels does not meet any of the definitions of reactivity as defined in WAC 173-303-090(7). The waste material is not unstable, does not react violently with water, does not form explosive mixtures, or does not generate toxic gases. Therefore, the waste stored in the PUREX Storage Tunnels is not designated as reactive waste. Characteristic of Toxicity – Lead, mercury, silver, chromium, barium, and cadmium are identified on the Toxicity Characteristics list. The quantity of these materials stored in the tunnels is sufficient that, should the substances come in contact with a leachate (an event considered unlikely), the concentration of the extract could be above the limits identified in the list. Therefore, this waste is designated D005, D006, D007, D008, D009, and D011. 						
The PUREX Storage Tunnels also are permitted for selenium (that is designated for D010; however, there is a potential for wattunnels.	D010). Currently aste with this was	, there is n te number	o waste stored in to be stored with	the tunnels in the		
Modification Class: 123	Class 1	Class 11	Class 2	Class 3		
Please check one of the Classes	Х					
Relevant WAC 173-303-830, Appendix I Modification:	A.1.					
Enter wording of the modification from WAC 173-303-830, Appendi A. General Permit Provisions 1. Administrative and informational changes						
Submitted by Co-Operator: Reviewed by RL Program Office:	e: Reviewed by Ecology: Reviewed by Ecology			Ecology:		
M. B. Lackey Date M. S. McCormick Date	R. Bond	Date	E.R. Skinnarlan	d Date		
DEC 1 9 2003						

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, §3.6.1, remove and replace Chapter 3.0 with attached Chapter 3.0. 3.6.1 Laboratory Selection Laboratory selection is limited as only a few laboratories are equipped to handle mixed waste because of the special equipment and procedures that must be used to minimize personnel exposure to mixed wasteradiation. Laboratory selection depends on laboratory capability, nature of the sample, timing requirements, and cost. At a minimum, the selected laboratory must have the following: A comprehensive OA/OC program (both qualitative and quantitative) Technical analytical expertise An effective information management system. These requirements will be met if the selected laboratory follows the pertinent requirements contained in the Hanford Analytical Services Quality Assurance Plan (DOE/RL 94-55),/The selected laboratory also can meet these requirements by having some other type of QA/QC program/as long as equivalent data quality is achieved. Modification Class: 123 Class ¹I Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by 66-Operator: Reviewed by Ecology: Reviewed by Ecology: M. S. McCormick M. B. Lackev Date R. Bond E.R. Skinnarland Date Date DEC 1 9 2003

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¹Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Mod	lification Notif	ication Forn	1	
Unit:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Permit Part &	Chapter:	
PUREX Storage Tunnels	Part III,	Chapter 3 and	l Attachmen	t 28
Description of Modification:				
Chapter 3.0, §3.7, remove and replace Chapter 3.0 with attached	Chapter 3.0.			
3.7 WASTE RE-EVALUATION FREQUENCIES				
Re-evaluation of waste within the PUREX Storage Tunnels will	not occur becaus	se of the perso	nnel and envi	ronmental
exposure to mixed waste-high radiation levels and the way the r	ailcars are positio	oned in the tun	nels. The wa	ste is
expected to remain stable.				
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M D Loslov Date M McCormick Date	R Bond	Date NE	R. Skinnarlan	d Da <i>l</i> e

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification:

Chapter 3.0, §3.8.2, remove and replace Chapter 3.0 with attached Chapter 3.0.

3.8.2 Procedures for Ignitable, Reactive, and Incompatible Waste

Presently, the only ignitable, reactive, or incompatible dangerous waste stored in the PUREX Storage Tunnels is the silver nitrate coating on the ceramic packing inside the silver reactors. This material is confined to the interior of a large stainless steel vessel (Section 3.5.1.1) that separates this material from all other waste material stored in the tunnel. The requirements in WAC 173-303-395(1)(a) require 'No Smoking' signs be conspicuously placed wherever there is a hazard present from ignitable or dangerous waste. 'No Smoking' signs are not considered appropriate at the PUREX Storage Tunnels because of ALARA principles the tunnels are a designated radiation area. Smoking is not allowed in any radiation area with ALARA concerns on the Hanford-Site and rules prohibiting smoking are strictly enforced. Because the posting of radiation area barriers. This policy serves to achieve the no smoking intent of WAC 173-303-395(1)(a), posting and maintaining 'No Smoking' signs are not considered appropriate.

Isolated areas within the PUREX Storage Tunnels have radiation levels in excess of 5 roentgen per hour. Personnel entry into such radiation areas to make periodic inspections [e.g., an annual fire inspection as required by WAC 173-303-395(1)(d) for storage areas containing ignitable waster would be inconsistent with ALARA guidelines of the Atomic Energy Act of 1954. Therefore, such inspections are not performed.

Class 1 Modification Class: Class 1 Class 2 Class 3 Please check one of the Classes: X A.1.

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by Co-Operator: M. B. Lackev M. S. McCormick Date Date

Reviewed by Ecology:

Reviewed by Ecology:

R. Bond

Date : E.R. Skinnarland

Date

¹ Class 1 modifications requiring prior Agency approval.

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Hanford Facility RCRA Permit Modification Notification Form				
Unit:		Permit P	art & Chapter:	
PUREX Storage Tunnels	Part III,	Chapter	3 and Attachme	nt 28
Description of Modification:			1	······································
Chapter 3.0, §3.10, remove and replace Chapter 3.0 with attach	ed Chapter 3.0.			
3.10 REFERENCES				
DOE/RL-94-55, Hanford Analytical Services Quality Assurance Operations Office, Richland, Washington.	e Plan, Rev. 2, U	.S. Depart	ment of Energy,	Richland
DOE/RL 94-97, Analytical Methods for Mixed Waste Analyse Energy, Richland Operations Office, Richland, Washington.	s at the Hanford S	Site, Rev.	0, U.S. Departme	nt of
EPA, 1986, Test Methods for the Evaluation of Solid Waste: P U.S. Environmental Protection Agency, Washington, D.C.	hysical/Chemical	Methods	SW-846, 3rd ed.	,
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122	•			
Modification Class: 12 3	Class 1	Class 1	l Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appendix	c I citation			
A. General Permit Provisions1. Administrative and informational changes	, •		· ·	
Submitted by/Co-Operator: Submitted by DJ Program Office.	Reviewed by Ecology: Reviewed by Ecology:			
M. B. Lackey Date M. S. McCormick Date	R. Bond	Date	E.R. Skinnarland	i Date
DEC 1 9 2003			Dammidian	Date

¹ Class 1 modifications requiring prior Agency approval.

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	Hanford Facility RCRA Permit Mo	dification No	tification For		rage 23 01 47	
,	Unit:		Permit Part 8	Chapter:		
	PUREX Storage Tunnels	Part II	l, Chapter 3 ar	nd Attachme	nt 28	
Description	of Modification:	-				
Chapter 3.0	, Table 3.1, remove and replace Chapter 3.0 with at	tached Chapter	3.0.			
Position	PUREX #1 Stora	age Tunnel (218-	E-14)			
1. & 2.	HA column and miscellaneous jumpers in box placed in Tunnel #1 on 6/60 HA 4,700 Cu. Ft. 400 CURIES, 5 rem/hr. @60', Jumpers 2,190 Cu. Ft., -2,000 CURIES, Pb-~115 Kg					
3.	E-F11 #1 (1WW Waste) Concentrator failed 7/24/60. Placed in Tunnel #1 on 7/29/60, 12.5 rem/hr. @100', 1,900 Cu. Ft. ., 40, 000 CURIES AFTER FIFTY-FIVE MONTHS SERVICE.					
4.	G-E2 Centrifuge, miscellaneous jumpers in box and two tube bundles. Placed in Tunnel #1 on 12/24/60. (FUG SER# 762) 2,465 Cu. Ft., -3,000 CURIES, Pb-~115 Kg., 1.5 rem/hr. @150'.					
5.	E-H4 (3WB) Concentrator failed 1/4/61. Placed in Tun CURIES. AFTER FIVE YEARS SERVICE.	nel #1 on 1/4/61,	150 mrem/hr. @l	50' , 2,336 Cu.	Ft , 1,000	
6.	E-F6 (2\NW Waste) Original Concentrator failed 4/21/6 Cu. Ft 700-CURIES. AFTER FIVE YEARS FOUR M	1. Placed in Tuni ONTHS SERVICE	nel #1 on 4/21/61	, 5 rem/hr. @	20', 2,336	
7.	7. E-F11 (1WW Waste) #2 Concentrator failed 2/1/62. Placed in Tunnel #1 on 2/8/62, 25 rem/hr. @ 150', 2,336 Cu. Ft., 40,000 CURIES. AFTER EIGHTEEN MONTHS SERVICE.					
8.	E-F6 (2WW Waste) #3 Spare Concentrator failed 5/23/2400 Cu. Ft, 700 CURIES, 5 rem/hr. @ 20'	64. Placed in Tur	nnel #1 on 1/22/6	5 Flat Car 362	1,	
	·					
`						
			•			
Modification	Class. 123	Class 1	Class 11	Class 2	Class	
	one of the Classes:	X	Class 1	Class 2	Class 3	
	AC 173-303-830, Appendix I Modification: of the modification from WAC 173-303-830, Appendix	A.1.	· · · · · · · · · · · · · · · · · · ·			
	Permit Provisions	CICITATION		•		
	ministrative and informational changes		•		,	
Submitted b	Population: Reviewed by RL Program Office:	Reviewed by E	cology: \$ 2/23/04 L	Reviewed by	11	
M. B. Lac	key Date M. S. McCormick Date	R. Bond		R. Skinnarlan	— 2/22/1 /	
	DEC 19 2003					

¹ Class 1 modifications requiring prior Agency approval.

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	Hanford Facility RCRA Permit Mo	dification Not	ification For	m			
	Unit:		Permit Part &	Chapter:	<u> </u>		
	PUREX Storage Tunnels Part III, Chapter 3 and Attachment 28						
Description of	of Modification:				······································		
Chapter 3.0,	Table 3.1, remove and replace Chapter 3.0 with at	tached Chapter 3	.0.				
<u>Position</u>	PUREX #2 Stor	rage Tunnel (218-E-	15)				
1.	E-F6# (2WW Waste) Concentrator, TK F 15-2, One tube bu 61439. 2,400 Cu. Ft.700 CURIES, 1.3 rem/hr. @ 100'.	indle and agitator mo	tors, placed in Tur	nel on 12/12/67	on Car		
2.	E-F6 #5 (E-H4 3WB) Concentrator, two tube bundles placed CURIES, 800 mrem/hr. @ 2'.	in Tunnel on 3/26/69	On Car MILW 6	0883, 2,400 Cu	. Ft. , 500		
3.	E-F6 #6 (2WW Waste) Concentrator, two tube bundles failed CURIES, 500 rem/hr. @ 2'.	d placed in Tunnel on	3/19/70. On Car	3612, 2,400 Cu	. Ft. , 700		
4.	L Cell Package in a sealed steel box (H2-66012) placed in T Pu, 200 mrem/hr. @ CONTACT.	unnel on 12/30/70 on	Car MILW 60033	, 2,400 Cu. Ft. ,	500 GRMS		
5.	F2 Silver Reactor, F6 Demister, Vessel Vent Line, Steel Cath Car 4610, 2,400 Cu. Ft., , 20 CURIES, Ag-625 Kg-2 rem/hr	walk and Guard Rails	, placed in Tunnel	on 2/26/71. Or	ı Gondola		
6.	Modified A3-1 tower, scrubber, liquid and vapor line placed in CURIES, 1 rem/hr. @ CONTACT.	n Tunnel on 12/12/71	. On Gondola Ca	r 4611, 2,400 C	u. Ft. , 10		
7.	A3 Dissolver placed in Tunnel on 12/22/71. On 9 Ft. shorten	ned Car B58, 2,400 C	u. Ft., , 50 CURI E	S, Hg45 Kg	5 rem/hr. @		
8.	A1W1 Fuel ends in steel liner box and NPR fuel handling equin Tunnel on 8/29/72, 800 Cu. Ft., 17,500 CURIES, 10-rem/h	uipment. Used with t	he suspected cani	sters, on Car 19	808. Placed		
9.	C3 Dissolver placed in Tunnel on 9/30/72, on Car 19811, 1590 Cu. Ft., , 50 CURIES, Hg-~45 Kg. , 5 rem/hr. @ 5'.						
10.	E-H4 (3WB) Concentrator, #61 tube bundle, prototype coolin 1, 2,400 Cu. Ft. , 500 CURIES, 800 mrem/hr. @ 2'.	g coil, and F-FI Filter	Tank, placed in Tr	unnel 8/30/83, c	n Car CDX-		
11.	A3 Dissolver (Vessel #10 and Heater Vessel #6), placed in T Hg40 Kg., Cd43 Kg., 3 mrem/hr. @ 3'.	unnel on 1/18/86, on	Car 3613, 3960 C	u. Ft. , 0.81-CU	RIES,		
12.	White box (H2-58456) containing eight tube bundles #S 57.						
13.	J5 Tank (Vessel #30), FL condenser (Vessel #13), and F12-lem/hr. @-1 ¹ placed in Tunnel on 1/21/86, on Car 19806, 2,50	B Cell Block, old four- 00 Cu. Ft. , 90 CURIE	way dumper, disc S.	yoke, and flang	e plate -3		
<u>14.</u>	L-I Pulser, 2-column cartridges, 1-jumper cutter, 3-jumper aliq 4-tube bundles, 2-vent jumpers and 7-yokes placed in Tunne tons, 3,600 Cu. Ft. , 33,740-CURIES (Ref. Letter 12110-88-0	el on 11/18/87, on Car	PX-10 (10A-1938	ons, 10-pumps, 80) & Rack H2-9	3-agitators, 6629.50. 50		
Modification	Class: 12 3	Class 1	Class 11	Class 2	Class 3		
Please check	one of the Classes:	X					
Relevant WA	C 173-303-830, Appendix I Modification:	A.1.					
	of the modification from WAC 173-303-830, Appendix	x I citation					
	ermit Provisions ministrative and informational changes		, ,				
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Sublingery of	Lizh Miller III Email 2	Reviewed by Ec	2/23/64 M	Reviewed by	1 1		
M. B. Lack		R. Bond		R. Skinnarlan			
	DEC 19 2003						

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	Hanford Facility RCRA Permit Mo	dification Not	tification For	m		
	Unit:		Permit Part 8	Chapter:		
PUREX Storage Tunnels Part III, Chapter 3 and Attachme				ıd Attachme	nt 28	
Description	of Modification:					
Chapter 3.0,	, Table 3.1, remove and replace Chapter 3.0 with att	ached Chapter 3	3.0.			
Position	PUREX #2 Stor	age Tunnel (218-E	-15)			
<u>15.</u>	Silver Reactor, E-F2 steam heater, and storage liner (H2-650 9 (10A-19809) & S/R Cradle SK-GLR-11-2-87. 20 tons, 2,77 Ag-~115 Kg., Pb-~230 Kg. , 20 mrem/hr. @ 20'.	95), full of cut up ju 5 Cu. Ft., 240 CUR	mpers placed in Ti IES (Ref. Letter 12	unnel on 5/13/88 110-88-074), Co	, on Car PX I-~13 Kg.,	
<u>16.</u>	E-J8-1 Unitized Concentrator Vessel #1 H2-52477, failed 3/1 #2 Tunnel 4/6/89 graveyards. Estimated 42 tons, 6,000 Cu.	1/89. Placed on sto Ft.1.5_CURIES (Re	orage Car H2-9960 f: letter 12113 89 (8, Px-6 (10A-19 027) 0.5_mrem/l	028) and in nr. @ 10'.	
<u>17.</u>	North storage liner H2-65095 containing six pumps, one agitator, and cut up jumper (14 tons). South storage liner H2-65095 containing one pump, one #15 yoke and cut up jumpers (11.5 tons). Placed on storage Car PX-19 (10A-19030) and in #2 Tunnel on days 8/5/89. Estimated 25.5 tons, 2,574 Cu. Ft. 3.0 CURIES (Ref: letter 12113 89 051) 80 mrem/hr. @ 1'.					
<u>18.</u>	T-F5 Acid absorber, ID#1-T-F5/F-168713, H2-52535 and H2-4/8/94. Estimated 22 tons, 835 Cu. Ft. 185 CURIES, 90 mre	52487/488. Placed	on storage Car P	X-2 and in #2 Tu	nnel on	
<u>19.</u>	Four metal liner storage boxes H-2-65095-3/H-2-100187-0 co equipment items. Placed on storage Car PX-23 and in #2 Tu mrem/hr. @ 2'.	ontaining failed jump nnel 9/16/94. Estin	pers and miscelland mated 60 tons, 403	eous obsolete ca 2 Cu. Ft. 927 C t	anyon URIES, 30	
<u>20.</u>	E-H4-1 unitized concentrator (H-2-52477/56213)/(E-H4-1) Placed in Tunnel on 1/27/95, on Car Px-28. Estimated 40 tons, 5,760 Cu. Ft., -3,070 CURIES, Cr8 Kg.,-1000 mrem/hr. @ 5'					
21.	Tank E-5 (H-2-52453)/(F-166955), lead storage box assembl 58102)/(F-223017-CBT-4), hot shop cover plate (H-2-52222) insert (H-2-75875)/ (H-2-75875-1), lifting yoke #7A (H-2-9683 PX-3609. Estimated 44 tons, 3,457 Cu. Ft., -26,000 CURIES	/("Q"), tube bundle v 57), lifting yoke #9 (I	vash capsule (H-2- 1-2-52458). Place	58647), dissolve	er charging	
22.	Metal uner box (H-2-65096) containing jumpers and failed/ob storage box (H-2-131629) containing jumper counterweights containing miscellaneous canyon equipment, canister cappin carbon steel pipe. Placed in Tunnel on 3-11-06, on Car #361 Pb-~3232 Kg., Cd-~2 Kg., 190-mrem/hr. @ 1'.	and miscellaneous i g station (H-2-8218)	lead items, scrap h 31), test canister c	opper (H-2-5734	17) Signaths of	
23.	Two burial boxes (H-2-100187) containing jumpers and failed Tunnel 3-11-96 on Car #PX-31. Estimated weight 21 tons, 2,	l/obsolete canyon e 116 Cu. Ft. , 2 CU F	quipment, lifting yo	ke (H-2-99652). @-1'.	Placed in	
odification	n Class: 123	Class 1	Class 11	Class 2	Class 3	
ease check	one of the Classes:	X				
elevant W	AC 173-303-830, Appendix I Modification:	A.1.				
	g of the modification from WAC 173-303-830, Appendix	I citation				
	Permit Provisions					
	ministrative and informational changes					
Submitted b	y Co Operator: Reviewed by RL Program Office:	Reviewed by E	cology: 2/23/04)	Reviewed by	Ecology:	
/M.'B. Las	key bylling. S. Millorgan Millorgan	R. Bond	Date E.	R. Skinnarlan	d Dat	
	DEC 19 2013					

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Unit: Permit Part & Chapter: PUREX Storage Tunnels Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 3.0, Table 3.1, remove and replace Chapter 3.0 with attached Chapter 3.0. Position PUREX #2 Storage Tunnel (218-E-15) 24. Concrete burial box (H-1-44980) storing 8 containers of 324 Building, B-Cell waste. For additional details, see PUREX Work Plan WP-P-95-60. Placed in Tunnel on Car #PX-29, on April 26, 1996. Estimated weight 36 tons, 1,890 Cu. Ft. , <244,000 CURIES, ~15 mrem/hr. @ 150'. wa, Cd-~10.5 kg., absorbed oil-~8.5 kg., Cr-~1 kg., Ba-~3 kg, ~24 g Pu. 25. Concrete burial box (H-1-44980) storing 9 containers of 324 and 325 Building waste. For additional details, see PUREX Work Plan WP-P-96-015. Placed in tunnel on Car #10A-3619, on June 12, 1996. Estimated weight 46.5 tons, 1,890 Cu. Ft. <1.75 M CURIES, ~200 mrem/hr. @ 150'. Ba-~4g., Cd-<1g., Cr-~2g., Pb-<1g, 43g Pu. 26. 20,000-gallon liquid waste tank Car HO-10H-18580, empty per RCRA, placed in Tunnel on June 19, 1996, approximately 30 tons., 5 CURIES, 100 rem/hr. @ 3', ~53 g Pu.	Hanford Facility RCRA Permit Modification Notification Form						
Description of Modification: Chapter 3.0, Table 3.1, remove and replace Chapter 3.0 with attached Chapter 3.0. PUREX #2 Storage Tunnel (218-E-15) 24. Concrete burial box (H-1-44980) storing 8 containers of 324 Building, B-Cell waste. For additional details, see PUREX Work Plan WP-P-95-60. Placed in Tunnel on Car #PX-29, on April 26, 1996. Estimated weight 36 tons, 1,890 Cu. Ft< 244,000 CURIES, ~15 mrem/hr. @ 150'. wa, Cd-~10.5 kg., absorbed oil-~8.5 kg., Cr-~1 kg., Ba-~ 3 kg, ~24 g Pu. 25. Concrete burial box (H-1-44980) storing 9 containers of 324 and 325 Building waste. For additional details, see PUREX Work Plan WP-P-96-015. Placed in tunnel on Car #10A-3619, on June 12, 1996. Estimated weight 46.5 tons, 1,890 Cu. Ft. <1.75 M CURIES, ~ 200 mrem/hr. @ 150'. Ba-~4g., Cd-<1g., Cr-~2g., Pb-<1g., 43g-Pu. 26. 20,000-gallon liquid waste tank Car HO-10H-18580, empty per RCRA, placed in Tunnel on June 19, 1996, approximately 30 tons., 5 CURIES, 100 rem/hr. @ 3', ~53 g Pu.	Unit: Permit Part & Chapter:						
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details, see PUREX Work Plan WP-P-95-60. Placed in Tunnel on Car #PX-29, on April 26, 1996. Estimated weight 36 tons, 1,890 Cu. Ft. , <244,000 CURIES, ~15 mrem/hr. @ 150'. wa, Cd-~10.5 kg., absorbed oil-~8.5 kg., Cr-~1 kg., Ba-~ 3 kg, ~24 g Pu. 25. Concrete burial box (H-1-44980) storing 9 containers of 324 and 325 Building waste. For additional details, see PUREX Work Plan WP-P-96-015. Placed in tunnel on Car #10A-3619, on June 12, 1996. Estimated weight 46.5 tons, 1,890 Cu. Ft. <1.75 M CURIES, ~ 200 mrem/hr. @ 150'. Ba-~4g., Cd-<1g., Cr-~2g., Pb-<1g, 43g-Pu. 26. 20,000-gallon liquid waste tank Car HO-10H-18580, empty per RCRA, placed in Tunnel on June 19, 1996, approximately 30 tons., 5 CURIES, 100 rem/hr. @ 3', ~53 g Pu.	Position	PUREX #2 Stora	ge Tunnel (218	-E-15)			
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1996, approximately 30 tons., 5 CURIES, 100 rem/hr. @ 3', ~53 g Pu. 27. 20,000 gallon liquid waste tank Car HO-10H-18579, empty per RCRA, placed in Tunnel on June 19	25. ·	details, see PUREX Work Plan WP-P-96-015. Placed in tunnel on Car #10A-3619, on June 12, 1996. Estimated weight 46.5 tons, 1,890 Cu. Ft. <1.75 M CURIES, ~ 200 mrem/hr. @ 150'. Ba-~4g					
27. 20,000 gallon liquid waste tank Car HO-10H-18579, empty per RCRA, placed in Tunnel on June 19,	26.	20,000-gallon liquid waste tank Car HO-10H-185 1996, approximately 30 tons., 5 CURIES, 100 re	80, empty per R m/hr. @ 3', ~53	CRA, placed i g Pu.	n Tunnel on J	une 19,	
1990, APPROXIMATELY 30 TONS , 9 CURIES, 300 mrem/nr. @ 3 , ~131 g Pu.	27.	20,000 gallon liquid waste tank Car HO-10H-185 1996, APPROXIMATELY 30 TONS , 9 CURIES,	79, empty per R 300 mrem/hr. @	CRA, placed in 3', ~131 g Pu	n Tunnel on J	une 19,	
28. 20,000-gallon liquid waste tank Car HO-10H-18582, empty per RCRA, placed in Tunnel on June 19, 1996, approximately 30 tons23 CURIES,650 mrem/hr. @ 3', ~11 g Pu.	28.	20,000-gallon liquid waste tank Car HO-10H-185 1996, approximately 30 tons. 23 CURIES,650 m	82, empty per R em/hr. @ 3', ~1	CRA, placed in 1 g Pu.	n Tunnel on J	une 19,	
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Modification Class: 123 Class 1 Class 2 Class 3			Class 1	Class 11	Class 2	Class 3	
Please check one of the Classes:	Please check o	one of the Classes:	X				
Relevant WAC 173-303-830, Appendix I Modification: A.1.	Relevant WAC	C 173-303-830, Appendix I Modification:	A.1.				
Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and informational changes	A. General Pe	ermit Provisions	I citation				
Submitted by \$6-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: The First 2/23/09 De Novie 2/25/09	Submitted by	Po-Operator: Reviewed by RL Program Office:	which & Bon	1 2/23/09	IP Davi	2/25/04	
M. B. Lackey M. M. M. C. Date R. Bond Date E.R. Skinnarland Date	M.B. lacke	7 97 - 7	R. Bond	Date JE.	R. Skinnarlan	d Date	

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Hanford Facility RCRA Permit Modification Notification Form

Unit:

PUREX Storage Tunnels

Permit Part & Chapter:

Part III, Chapter 3 and Attachment 28

Description of Modification:

Chapter 4.0, §4.0, remove and replace Chapter 4.0 with attached Chapter 4.0.

4.0 PROCESS INFORMATION

This chapter discusses the processes involved in the operation of the PUREX Storage Tunnels. The PUREX Storage Tunnels are used for the storage of mixed waste from the PUREX Plant and other onsite sources.

The PUREX Storage Tunnels were designed and constructed to provide a means of protecting personnel and the environment from exposure to mixed wasteradiation associated with stored material. This design also serves to protect personnel and the environment from the dangerous waste component of the mixed waste stored inside the tunnels.

The PUREX Storage Tunnels are being permitted as a miscellaneous unit under WAC 173-303-680. The WAC regulations require that miscellaneous unit permit terms and provisions address appropriate requirements provided for other TSD units. Because the operation and construction of the PUREX Storage Tunnels most closely resemble that of a container storage unit, the appropriate requirements prescribed for a container storage unit are addressed in this chapter.

Modification Class: 123	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.		7.0 Mar. 1872	
Enter wording of the modification from WAC 173-303-830, A	Appendix I citation			
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	Date R. Bond	Date E.	R. Skinnarland	

¹Class 1 modifications requiring prior Agency approval.

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Hanford Facil	ity RCRA Permit	Modification N	otification Fo	rm	1 696 20 01 71
Unit:			Permit Part 8		
PUREX Storage Tun	inels	Part	III, Chapter 3 a	nd Attachme	ent 28
Description of Modification:		_			
Chapter 4.0, §4.1, remove and replace C	Chapter 4.0 with attac	ched Chapter 4.0.		4	
4.1 OPERATION OF THE PURI	EX STORAGE TU	NNELS			
This section describes the selection, cha storage of mixed waste in the PUREX S radioactive waste placed in the PUREX	torage Tunnels.— Exc	ation, placement, eept as noted, the	and removal acted	tivities assoc apply to the	iated with storage of
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Modification Class: 123		Class 1	Class 11	CI o	
lease check one of the Classes:		X	Class 1	Class 2	Class 3
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M. B. Lackey Date M. S. McCondick Date

DEC 1 9 2003

Administrative and informational changes

A. General Permit Provisions

Submitted by

ewed by RL Program Office:

Reviewed by Ecology:

R. Bond

Reviewed by Ecology:

Date F.R. Skinnarland

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				Page 29 of 4
Hanford Facility RCRA Permit Mo	dification No			
Unit:	D4 H	Permit Part &		
PUREX Storage Tunnels Description of Modification:	Рап п	l, Chapter 3 ar	id Attachme	ent 28
	1 101 / 4			
Chapter 4.0, §4.1.2.2, remove and replace Chapter 4.0 with atta	ched Chapter 4.	.0.		
4.1.2.2 Material Flushing				÷
Before removal from service, the material from the PUREX Plandioactive-contamination, and to reduce to nonregulatory level in a residual heel. In the future the analysis of the rinsate will be achieved. The analysis of the final flush will be retained as par removed from other onsite units will be prepared for transfer to permit.	s the concentrate used to determent to f the PUREX	ion of any dang nine when these Storage Tunne	gerous chemie goals have l records. M	icals present been Iaterial
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Appendix A. General Permit Provisions 1. Administrative and informational changes	x I citation			
Submitted by Co-Operator// Att newed for RV Plogram, Office:	Reviewed by E	icology:	Reviewed by	Ecology:

DEC 19 2003

M. S. McCormick

Date

R. Bond

¹Class 1 modifications requiring prior Agency approval.

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Page 30 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 4.0, §4.1.2.4, remove and replace Chapter 4.0 with attached Chapter 4.0. 4.1.2.4 Placement of Material into Storage Position With all preparations complete and with the approval of cognizant management, transferring material to the PUREX Storage Tunnels proceeds as follows. The water-fillable door to the storage tunnel is opened. The railcar is loaded as specified in the storage tunnel checklist. An inventory of items loaded on the railcar and a record of their location on the railcar are recorded in the storage tunnel checklist. A health physics technician obtains a radiation level survey is obtained of the loaded railcar at a distance commensurate with ALARA practises. The railcar is pushed into the storage tunnel to its storage position. Once the railcar is in position, the water-fillable door is closed. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

DEC 19 2003

eviewed by RL Program Office

Submitted by 2

M. B. Lackey

Administrative and informational changes

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

Date

R. Skinnarland

¹Class I modifications requiring prior Agency approval.

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Page 31 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 4.0, §4.1.3, remove and replace Chapter 4.0 with attached Chapter 4.0. 4.1.3 Removal of Stored Material Removal of material stored within the PUREX Storage Tunnels is not conducted routinely. It is planned that the material will remain in storage until a means to accommodate processing and repackaging of the material for disposal or further storage or until another final disposition option becomes available. Removal of material from storage within the PUREX Storage Tunnels would proceed after the preparation activities identified in Section 4.1.1. With all preparations complete and approval of management, removal of material from the storage area of the PUREX Storage Tunnels would proceed as follows. The equipment that will be used to remove material is positioned in the PUREX railroad tunnel. Verification is made that the PUREX railroad tunnel is configured properly to proceed with entrance into the PUREX Storage Tunnels (i.e., tunnel ventilation system is operating, the overhead door is closed and the health physics technician has performed a radiation a survey of the area is performed for ALARA concerns). The water-fillable door is opened. The equipment that will be used to remove material is moved into the storage tunnel and connected to the railcar. Verification is made that the railcar is connected to the removal equipment and the railcar is extracted from the storage tunnel and positioned within the PUREX railroad turnel. The water-fillable door is closed. The loaded railcar retrieved from the tunnel would be remotely viewed and radiation-measurements may be obtained to determine the possibility of mixed waste containment failure during storage in the PUREX Storage Tunnels. If evidence of containment failure is detected, the specific details (i.e., material, location on railcar, storage position) would be documented and attached to the waste tracking form. This information would be maintained in the files and would be used to establish sampling locations within the tunnels at closure. After remote viewing and radiation surveyings, the railcar and associated material may be prepared as required for transfer to an appropriate onsite TSD unit for treatment or further storage.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by Co-Operator:	Reviewed by RL Program	m Office Reviewed	by Ecology: 6-24-44	Reviewed by Eco	logy: 6-22-
M. B. Kackey Date		Date R. Bono	I Date	E.R. Skinnarland	Date

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Page 32 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 4.0, §4.1.4, remove and replace Chapter 4.0 with attached Chapter 4.0. 4.1.4 Filling the Water-Fillable Door (Tunnel Number 2) If radiation shielding beyond that provided by the empty water-fillable door becomes necessary, the door can be filled with water. In the past, this was accomplished by connecting a fire hose from the water hydrant to the wall stub on the exterior of the door housing (Figure 4.1). Once the fire hose was in place, the hydrant valve was opened and the door was filled with water. The hydrant was closed by personnel when a high-level indicator light illuminated. Although attendance by an operator is required at all times during filling operations, should the door overfill, excess water is channeled through a vent/spill pipe to the door sump. A 15.2-centimeter drain is provided in each door sump. Water accumulated in the door sump was pumped out to the Double-Shell Tank System, and the sump and drain were made inoperable during PUREX Facility deactivation activities. The drain was sealed during PUREX Facility deactivation. In the future, a temporary source of water could be provided for filling the water fillable door. Modification Class: Class ¹1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by Co-Operator; eviewed by RL Program Office Reviewed by Ecology: Reviewed by Ecology: M. S. McComick

M. B. Lackev

DEC 19 7003

R. Bond

Date WE.R. Skinnarland

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Hanford Facility RCRA Permit Unit:		Permit Part		
PUREX Storage Tunnels	Part	ill, Chapter 3 a		nt 20
Description of Modification:		in, Onapter 5 a	nu Attacilitie	711. 20
Chapter 4.0, §4.1.6, remove and replace Chapter 4.0 with at	tached Chapter 4.	0.		
4.1.6 Operation of the Tunnel Ventilation System	_			
		•		,
The ventilation systems for Tunnel Number 1 and Tunnel N	umber 2 were des	igned to ventila	te air from wi	ithin the
nunnels so the airborne radioactive contamination is vented t	nrougn a HEPA i	iltered exhaust s	system.	
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M. B. Laekey Date M. S. McCormick Date	R. Bond	6-24-69	J. P. NO R. Skinnarlan	4 6-7

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

PUREX Storage Tunnels

Permit Part & Chapter:

Part III, Chapter 3 and Attachment 28

Description of Modification:

Chapter 4.0, §4.1.6.2, remove and replace Chapter 4.0 with attached Chapter 4.0.

4.1.6.2 Tunnel Number 2 Ventilation

The Tunnel Number 2 ventilation system presently is inactive. As part of PUREX Facility deactivation, the water-fillable door and outer PUREX railroad tunnel door were sealed. The seal may be temporary or permanent depending on the future need for storing waste in the tunnel. The ventilation system may be operated continuously, or de-energized and reactivated during waste placement activities. During deactivation, a blank was installed on the downstream side of the filter and the stack was capped. When the determination has been made that Tunnel Number 2 will no longer receive waste, the ventilation system will be blanked and deactivated electrically similar to the Tunnel Number 1 ventilation system. While the Tunnel Number 2 ventilation system is operating and the water-fillable door is closed, the exhaust system, which discharges approximately 100 cubic meters per minute, maintains a slightly negative pressure in the tunnel. The exhaust air is replaced by infiltration around the water-fillable door and through the porosity of the tunnel structure (e.g., the rail-bed ballast). When the water-fillable door is open (during transfer activities), inward airflow is maintained through the open doorway. This inward airflow channels airborne radioactive contamination away from both the railroad/tunnel and personnel following railcars (if allowed) into the storage tunnel. A HEPA filter provides filtration of all exhaust air before release to the atmosphere. When the ventilation system is operating, the HEPA filter is tested in place at least annually to ensure radioactive particulate removal efficiency. Exhausted air is sampled periodically and analyzed for airborne radionuclides.

Modification Class: 123	Class 1	Class 1	1 Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830, Append A. General Permit Provisions 1. Administrative and informational changes	ix I citation			
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M. B. Lackey The M. S. McConnick Bate	R. Bond	Date	E.R. Skinnarlan	d Date
DEC 19 2003				

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Page 35 of 47 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 4.0, §4.2.1, remove and replace Chapter 4.0 with attached Chapter 4.0. 4.2.1 Containers with Free Liquids The only mixed waste stored as a free liquid is elemental mercury. A small quantity, less than 1.7 liters, of mercury is contained in each of the two thermowells attached to and contained within each dissolver (Attachment 28, Chapter 3.0). Primary containment of the mercury is provided by the all-welded construction of the thermowell itself, which is fabricated from 7.6-centimeter, Schedule 80, 304L stainless steel pipe. The open upper end of the thermowell was plugged with a 304L stainless steel nozzle plug in preparation for storage. The dissolver rests on a cradle on its railcar in an inclined position. This ensures that the mercury remains in the lower portion of the thermowell and is not in contact with the mechanical closure on the nozzle end of the thermowell. A secondary containment barrier for mercury, should it leak from the thermowell, is provided by the dissolver itself. The dissolver is a 304L stainless steel process vessel constructed from 1-centimeter-thick plate and is approximately 2.7 meters in diameter. The dissolver is of all-welded construction and contains no drains or nozzle outlets in the bottom several feet of its lower section, which contains both thermowells. The 304L stainless steel used to contain the elemental mercury is both compatible with the waste itself and the storage environment. The potential for significant deterioration of either the primary or secondary containment barrier material before closure is considered to be negligible. The dissolvers stored within the PUREX Storage Tunnels are not labeled as containing characteristic toxic mercury (D009) [WAC 173-303-090(8)(c)]. Procedures for labeling were not in place at the time of storage. Personnel access into the storage area for purposes such as labeling is not feasible because of the radiation levels and cannot be justified under ALARA guidelines. Based on ALARA, mixed waste presently within the PUREX Storage Tunnels will remain unlabeled. However, during future transfers of mixed waste into the PUREX Storage Tunnels the railcars will be labeled as specified by WAC 173-303-395(6) and WAC 173-303-630(3).

Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
D-1				

Relevant WAC 173-303-830, Appendix I Modification:

A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes

Submitted by Co-Operator: iewed by RI Date

Reviewed by Ecology:

6-24-64 R. Bond

Date E.R. Skinnarland

Rexiewed by Ecology:

Class 1 modifications requiring prior Agency approval.

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Page 36 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 4.0, §4.2.3, remove and replace Chapter 4.0 with attached Chapter 4.0. Protection of Extremely Hazardous Waste in Containers 4.2.3 The present amount of mixed waste stored in the PUREX Storage Tunnels is sufficient to characterize this material as extremely hazardous waste. Because the PUREX Storage Tunnels are enclosed totally, protective covering from the elements and from run-on is provided for the storage of extremely hazardous waste. Periodic inspection of the equipment stored in the PUREX Storage Tunnels is not feasible and cannot be justified under ALARA guidelines because of radiation levels in excess of 5 roentgen per hour. Safe management of this waste is based on the following considerations. The operation of the PUREX Storage Tunnels is passive, i.e., once a storage position is filled, the storage position remains undisturbed until closure. The extremely hazardous waste is compatible with its storage container and the storage environment. Modification Class: 123 Class 1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1.

DEC 1 9 2003

Administrative and informational changes

Enter wording of the modification from WAC 173-303-830, Appendix I citation

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Reviewed by RL Program Office:

A. General Permit Provisions

Submitted MCo-Operator:

M. B. Lackev

-Date

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

E.R. Skinnarland

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Hanford Facility RCRA Permit Modification Notification Form

Unit:

PUREX Storage Tunnels

Permit Part & Chapter:

Part III, Chapter 3 and Attachment 28

Description of Modification:

Chapter 4.0, §4.2.4, remove and replace Chapter 4.0 with attached Chapter 4.0.

4.2.4 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste in Containers

There is no reactive or incompatible waste known to be stored in the PUREX Storage Tunnels. The only mixed waste stored in the PUREX Storage Tunnels considered an ignitable waste is the silver nitrate in Tunnel Number 2. The silver nitrate fraction of the silver salts, within the silver reactors, exhibits the characteristic of ignitability as defined in 49 CFR 173.127(a). Therefore, the silver salts are managed as an ignitable dangerous waste in accordance with WAC 173-303-395.

- The risk of fire associated with the storage of silver nitrate in the PUREX Storage Tunnels is considered to be extremely low. This conclusion is based on the following considerations.
- The operation of the PUREX Storage Tunnels is passive; i.e., once a storage position is filled, the storage position remains undisturbed until closure.
- The silver nitrate is contained within large, heavy-walled stainless steel vessels that isolate the silver nitrate from contact with any combustibles that might be in the tunnels.
- The silver nitrate is dispersed over a large surface area on a ceramic packing substraight and is not conducive to build-up of heat that could lead to spontaneous combustion.
- Personnel access to the occupied areas of the tunnels is not permitted, thereby precluding activities that could present a fire hazard (e.g., smoking, flame cutting, welding, grinding, and other electrical activities).

Although ignitable waste storage units are required by WAC 173-303-395(1)(d) to have inspections conducted at least yearly by a fire marshall or professional fire inspector familiar with the requirements of the uniform fire code, the radiation levels ALARA concerns within the PUREX Storage Tunnels make such inspections impractical. These inspections are not considered appropriate or necessary for the safe operation of the unit because of the nature of the ignitable waste, the means of storage, and ALARA concerns (Attachment 28, Chapter 6.0, Section 6.2).

	Modification Class: 123	Class 1	Class 11	Class 2	Class 3		
	Please check one of the Classes:	X			, <u> </u>		
	Relevant WAC 173-303-830, Appendix I Modification:	A.1.					
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,-	M. B. Lackey Date M. S. McCormick Date	R. Bond	Date ∦É.	R. Skinnarland	Date '		
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Page 38 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 6.0, §6.1 and 6.1.1.1, remove and replace Chapter 6.0 with attached Chapter 4.0. Added OFFICIAL USE ONLY to Chapter 6.0. 6.1 **SECURITY** The following sections describe the security measures, equipment, and warning signs used to control entry into the PUREX Storage Tunnels. Hanford Facility security measures are discussed in the Attachment 33, § 6.1, General Information Portion (DOE/RL-91-28).\ 6.1.1.1 24-Hour Surveillance System The entire Hanford Facility is a controlled access area. For surveillange information refer to the Attachment 33, § 6.1. General Information Portion (DOE/RL-91-28). Class 11 Modification Class: 123 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

DEC 19 2003

-Operator:

Submitted by 126

Administrative and informational changes

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

Date:

E.R. Skinnarland

¹Class 1 modifications requiring prior Agency approval.

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Page 39 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 6.0, §6.1.1.2, remove and replace Chapter 6.0 with attached Chapter 6.0. 6.1.1.2 Barrier and Means to Control Entry The PUREX Storage Tunnels are protected by the 200 East Area fence and building structures to enhance physical security. Visitors are required to be escorted. Personnel wishing to enter either storage tunnel must be qualified radiation zone workers and must obtain appropriate approval on a need-to-enter basis. Entry into either storage tunnel is made from the PUREX Plant compound or from outside the railroad tunnel. Actual access into the active portion. the storage area of the storage tunnels can be made only through the north entry after the massive, water-fillable doors are raised. The water-fillable doors normally are closed and require operations approval, as well as mechanical assistance, to open. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

DEC 19 2003

M. S. McCormick

Date

Submitted by Co-Operator

M. B. Lackey

Administrative and informational changes

Date

Reviewed by Ecology:

R. Bond

Reviewed by Ecology:

Date ME.R. Skinnarland

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· •	lanford Facility	RCRA Permit I	Modific	ation Not	tification For	m				
	Unit:				Permit Part & Chapter:					
PUREX Storage Tunnels				Part III, Chapter 3 and Attachment 28						
Description of Modificat	ion:									
Chapter 6.0, §6.2, remov	e and replace Chap	oter 6.0 with attac	hed Cha	pter 6.0.		N.				
5.2 INSPECTION I	PLAN									
Because waste within the mixed wastelevels of rad inspection of the tunnel is annually. The inspection Inspection records will be	iation present (leve nterior will not be particularly a schedules and insp	els that exceed 5 performed. Extended to be performed. Extended to be pection reports were supported to be pection reports were supported to be performed to b	roentgen mal insp vill be ma	per hour i ections of	n certain areas the tunnels on	of the tunnel y will be per	s) , formed			
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Iodification Class: 123				Class 1	Class 1	Class 2	Class 3			
lease check one of the C	Classes:			X						
elevant WAC 173-303-	830, Appendix I M	lodification:	A.1.							
nter wording of the modifi General Permit Provis	cation from WAC 1	73-303-830, Apper								

DEC 19 2003

R. Bond

Date NE.R. Skinnarland

Date

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Page 41 of 47 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 6.0, §6.4.4.2, remove and replace Chapter 6.0 with attached Chapter 6.0. 6.4.4.2 Mitigation of the Effects of Power Failure Maintaining safe storage of materials in the PUREX Storage Tunnels is not continued on continued supply of electrical power. Electrical power is required to operate the water-fillable door and the ventilation fan in both tunnels. Back-up or redundant ventilation systems are not provided as the system is operated only to maintain air balance and provide secondary control of radioactive airborne particulate. Power failure to either tunnel would not have the potential to result in the release of dangerous waste or mixed wasteradioactive material to the environment. There are no hazards associated with the shutdown of the tunnel ventilation systems due to loss of electrical power. Modification Class: Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes

Submitted by \$20-Operator.

M. B. Lackey

M. S. McCormick

Date

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

Date

E.R. Skinnarland

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Page 42 of 47 **Hanford Facility RCRA Permit Modification Notification Form** Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 6.0, §6.5.4, remove and replace Chapter 6.0 with attached Chapter 6.0. 6.5.4 **Personnel Protection Equipment** Personnel entering the PUREX Storage Tunnels are required to wear special protective clothing and respiratory protection at all times because of the radioactive-material stored in the PUREX Storage Tunnels. Protective clothing and full-face respirators with filters are considered to be sufficient protection from the dangerous waste stored within the PUREX Storage Tunnels. Personnel are trained and qualified in using the protective equipment and are checked routinely for mask fit. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Reviewed by Ecology: Reviewed by Ecology: R. Bond Date Date E.R. Skinnarland Date

9 2003

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Page 43 of 47 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 7.0, §7.1.5, remove and replace Chapter 7.0 with attached Chapter 7.0. **Description of Facility and Operations** The PUREX Storage Tunnels consist of two structures, 218-E-14 (Tunnel Number 1) and 218-E-15 (Tunnel Number 2). The tunnels are used for the storage of material from the PUREX Plant and from other onsite sources. The material stored in the tunnels contains dangerous waste and varying amounts of radioactive contamination; therefore, the stored material is managed as mixed waste. Tunnel Number 1 is filled to capacity, Tunnel Number 2 currently has storage positions available and may continue to receive mixed waste from the PUREX Plant and other onsite sources until the tunnel is either filled to capacity or a determination is made that waste will no longer be received. Mixed waste is stored in the PUREX Storage Tunnels on railcars that are modified to serve as both transporter and storage platforms. Each railcar is retrievable. However, because the railcars are stored on a single, dead-end railroad spur inside each storage tunnel, the railcars can be removed only in reverse order (i.e., last in, first out). Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1.

DEC 19 2003

Program Office:

Reviewed by Ecology:

Date

R. Bond

Reviewed by Ecology:

Date

E.R. Skinnarland

Date

A. General Permit Provisions

Submitted by

M. B. Lackey

Enter wording of the modification from WAC 173-303-830, Appendix I citation

M. S. McCormick

Administrative and informational changes

Date

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Hanford Facili	ty RCRA Peri	mit Modif	ication No	tification Form	1	
Unit:				Permit Part & (Chapter:	
PUREX Storage Tuni	nels		Part II	l, Chapter 3 and	d Attachme	nt 28
escription of Modification:	_					
hapter 7.0, §7.4, remove and replace C	hapter 7.0 with	attached C	hapter 7.0.	·		
4 UNIT/BUILDING EMERGEN	NCY RESPON	SE PROC	EDURES	-		
ne initial response to any emergency is entification of released material is essessosal assessment are secondary responergency action levels associated with Illowing. A Site Area Emergency can applosion, natural hazards (i.e., seismic or a fire, explosion, or high winds.	ential to determinses. I event classificate be declared for event and/or tor litional detail ex	ations appl a radioacti nado), and	riate protecti icable to the ve material r aircraft cras mergency a	ve actions. Con PUREX Storage nixed waste rele h. An Alert Emetion levels is ide	e Tunnels inc ase resulting ergency can entified in E	clude the from an be declare mergency
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DEC 19 2003

viewed by RL Program Offic

Submitted M

Administrative and informational changes

Date

Reviewed by Ecology:

R. Bond

Reviewed by Ecology:

Date F.R. Skinnarland

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Page 45 of 47 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Unit: **PUREX Storage Tunnels** Part III, Chapter 3 and Attachment 28 Description of Modification: Chapter 11.0, §11.0, remove and replace Chapter 11.0 with attached Chapter 11.0. 11.0 **CLOSURE AND FINANCIAL ASSURANCE** Closure of the PUREX Storage Tunnels requires coordination with closure of the PUREX Plant to ensure a cost effective closure for both units. In addition, the highly radioactive nature of the mixed waste located within the PUREX Plant and PUREX Storage Tunnels precludes the determination of the type of treatment and/or disposition of the waste at this time. The PUREX Storage Tunnels will be managed as a RCRA storage unit until closure can be coordinated with the final closure plan for the PUREX Plant. The PUREX Storage Tunnels closure plan will be submitted after any required National Environmental Policy Act of 1969 documentation and land usage agreements, which initiate disposition and aid in identifying or developing necessary disposition activities, have been adopted. The PUREX Storage Tunnels closure plan will be submitted for Ecology approval with the PUREX Plant closure plan. The PUREX Storage Tunnels closure plan will be written to meet the requirements of WAC 173-303-140 and WAC 173-303-610. This closure plan might consider but will not be limited to the following options for either in situ disposal or retrieval/clean closure of this unit. Federal facilities are not required to comply with WAC 173-203-620 as is stated in the regulations and as described in Condition II.H.3 of the Hanford Façility RCRA Permit (Exclosy 1994). Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions Administrative and informational changes Submitted by 10-Operator: Reviewed by Ecology: Reviewed by Ecology:

Date

M. S. McCormick

R. Bond

E.R. Skinnarland

Date

Date

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Hanford Facility RCRA Permit Mo	dification Notif	ication Fo		age 46 of 47
Unit:		Permit Part	& Chapter:	
PUREX Storage Tunnels	Part III,	Chapter 3	and Attachmer	t 28
Description of Modification:				
Chapter 12.0: Remove Chapter 12.0 and replace with Permit C	ondition III.3.B.1		•	
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122	<u> </u>			
Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X	<u>.</u>		
Relevant WAC 173-303-830, Appendix I Modification:	A.1.		<u></u> ., ,	· .
Enter wording of the modification from WAC 173-303-830, Appendi	x I citation			
A. General Permit Provisions 1. Administrative and informational changes				•
Submitted by Co-Operator Refrewed by R. Program Office:	Reviewed by Ed	ology:	Reviewed by	Ecology:
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M. B. Lackey Date M. S. McCormick Date	R. Bond	Date	E.R. Skinnarlan	d Date
(M. B. Laekey Date M. S. McCormick Date		Date	L.K. DRIMMAHAH	<u>Date</u>

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Hanford Facility RCRA Pern	nit Modification Notification Form
Unit:	Permit Part & Chapter:
PUREX Storage Tunnels	Part III, Chapter 3 and Attachment 28
Description of Modification:	
Chapter 13.0: Remove Chapter 13.0.	
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	/ <u> </u>
V	
Modification Class: 123	Class 1 Class 1 Class 2 Class 3
Please check one of the Classes:	X
Relevant WAC 173-303-830, Appendix I Modification:	A.1.
Enter wording of the modification from WAC 173-303-830, A	Appendix I citation
A. General Permit Provisions 1. Administrative and informational changes	a .
/Submitted by Co-Operator: Reviewed by RL Program O	fixe: Reviewed by Ecology: Reviewed by Ecology:
MI- 11 12/17 Mille Mill Chronell	
M. B. Lackey Date M. S. McCormick	Date R. Bond Date E.R. Skinnarland Date
DEC 19	2003

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Hanford Facility RCRA Permit Modification Notification Forms Part III, Chapter 5 and Attachment 35 242-A Evaporator

Quarter Ending December 31, 2003

Page 1 of 34

Index Page 2 of 34: Hanford Facility RCRA Permit, Condition III.5 Page 3 of 34: Chapter 1.0, §1.0 Page 4 of 34: Chapter 1.0, Part A, §IV Page 5 of 34: Chapter 1.0, Part A, §IV Page 6 of 34: Chapter 1.0, Figure Page 7 of 34: Chapter 1.0, Figure Page 8 of 34: Chapter 2.0, §2.0 Page 9 of 34: Chapter 3.0, §3.1 Page 10 of 34: Chapter 3.0, added Figure 3.1 Chapter 4.0, §4.0 Page 11 of 34: Page 12 of 34: Chapter 4.0, §4.1.2 Page 13 of 34: Chapter 4.0, §4.1.3.1 Page 14 of 34: Chapter 4.0, §4.1.3.1 Page 15 of 34: Chapter 4.0, §4.1.6.1 Page 16 of 34: Chapter 4.0, §4.1.6.2 Page 17 of 34: Chapter 4.0, §4.1.6.2.3 Page 18 of 34: Chapter 4.0, §4.1.4.2.4 Page 19 of 34: Chapter 4.0, §4.1.6.2.5 Page 20 of 34: Chapter 4.0, §4.1.6.3 Page 21 of 34: Chapter 4.0, §4.1.7 Page 22 of 34: Chapter 4.0, §4.1.9 Page 23 of 34: Chapter 4.0, §4.1.12 Page 24 of 34: Chapter 4.0, §4.2.1 Page 25 of 34: Chapter 4.0, Figure 4.1 Page 26 of 34: Chapter 4.0, Figure 4.4 Page 27 of 34: Chapter 4.0, Figure 4.4 Page 28 of 34: Chapter 6.0, §6.1 Page 29 of 34: Chapter 6.0, §6.2.2.2 Page 30 of 34: Chapter 7.0 Chapter 11.0, §11.1 Page 31 of 34: Page 32 of 34: Chapter 11.0, §11.3.4 Page 33 of 34: Chapter 12.0

Page 34 of 34:

Chapter 13.0

	Hanford Facility RCRA Permit Modification Notification Form						
-	Unit:	Permit P	art & Chapter:	_			
Decemention	242-A Evaporator of Modification:	Part III, Chapter	5 and Attachment 35				
	ility RCRA Permit, Condition III.5:						
Timilord 1 au		PTER 5	•				
		vaporator					
The 242-A Ev	aporator is a mixed waste treatment and storage un	it consisting of a conventional	forced-circulation, vacuum				
evaporation sy	stem to concentrate mixed-waste solutions. This C	hapter sets forth the operating	Conditions for this TSD unit.				
	COMPLIANCE WITH APPROVED PERMIT AP						
The Permittee Amendments enforceable):	es shall comply with all requirements set forth is specified in Condition III.5.B, if any exist. All	in Attachment 35, including a subsections, figures, and table	all Class 1 Modification, and the les included in these portions ar	e e			
ATTACHME	NT 35:						
Chapter 1.0	Part A, Form 3, Dangerous Waste Permit, Revision December 31, 2003 June 30, 2003	on 8, from Class 1 Modification	for quarter ending	:			
Chapter 2.0	Unit Description, from Class 1 modification for q	uarter ending December 31, 20	0 <u>3</u> 2				
Chapter 3.0	Waste Analysis Plan, from Class 1 Modification f	or quarter ending December 31		ĺ			
Chapter 4.0	Process Information, from Class 1 Modifications						
Chapter 6.0 Procedures to Prevent Hazards, from Class 1 Modification for quarter ending March December 31, 2003							
Chapter 7.0	Contingency Plan, from Class 1 Modification from	n quarter ending MarchDeceml	per 31, 2003				
Chapter 8.0	Personnel Training, from Class 1 Modification fro						
Chapter 11.0	Closure and Financial Assurance, from Class 1 M	odification for quarter ending I	December 31, 20032				
Chapter 12.0	Reporting and Recordkeeping, from Class 1 Mod	fication from quarter ending D	ecember 31, 2002	ŀ			
Chapter 13.0	Other Federal and State Laws, from Class 1 Modi	fication from quarter ending De	ecember 31, 2002	ļ			
Appendix 4B	The 242-A Evaporator/Crystallizer Tank System I quarter ending December 31, 2002	ntegrity Assessment Report, fro	om Class 1 Modification for				
III.5.B	AMENDMENTS TO THE APPROVED PERMIT						
III.5.B.1	Portions of DOE/RL-94-02 that are not made enfo document, are not made enforceable by reference	rceable by inclusion in the appin this document.	licability matrix for that				
III.5.B.2	Permittees must comply with all applicable portion	ns of the RCRA Permit for the	Hanford Facility. The facility and				
	unit-specific recordkeeping requirements are distinuinformation Portion, Table 12.1 (DOE/RL-91-28)	101tished in the RCRA Permit	Attachment 22 Consul				
Modification	Class: 123	Class 1 Class 1	Class 2 Class 3	\dashv			
Please check	one of the Classes:	X	Class 3	┥			
Relevant WAC	173-303-830, Appendix I Modification:	A.1		┿			
Enter wording A. General Pe	of the modification from WAC 173-303-830, Appermit Provisions strative and Informational changes						
Submitted by (Co-Operator: Reviewed by DOE Program Office:	Reviewed by Ecology:	Reviewed by Ecology:	†			
- Colan	12/12/03 h		, 200108				
E. Aromi	Date J. Swailes Date	F. Jamison Date	E. R. Skinnarland, Date	1			
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Hanford Facility RCRA Permit	Modification	Notification F		Page 3 of 34
Unit: 242-A Evaporator		Permit Part	& Chapter:	ent 35
Description of Modification:		,		J110 00
Chapter 1.0, §1.0: Replace Chapter 1.0 with the attached C	Chapter 1.0.			
On December 31, 2003 the Part A Form 3 Revision 8A	was revised to	remove the ion-	exhange colu	mn and add the
process condensate line (PC 5000).			0	
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Iodification Class: 123	Class 1	Class 11	Class 2	Class 3
lease check one of the Classes:	X	-		01455 5
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
Inter wording of the modification from WAC 173-303-830 Common WAC 173-303-830	, Appendix I cit	ation		
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by	Ecology:	Reviewed l	y Feology:
	7.002	- 3/4/52	MP 1	
E. Aromi Date J. Swailes Date			X1: 1.	avis 2/2

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Page 4 of 34

Hanford Facility RCRA Permit Modification Notification Form							
Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35						
Description of Modification:							
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Page 5 of 34

Hanford Facility RCRA Permit	Modification Notification Form
Unit: 242-A Evaporator	Permit Part & Chapter: Part III, Chapter 5 and Attachment 35
Description of Modification:	
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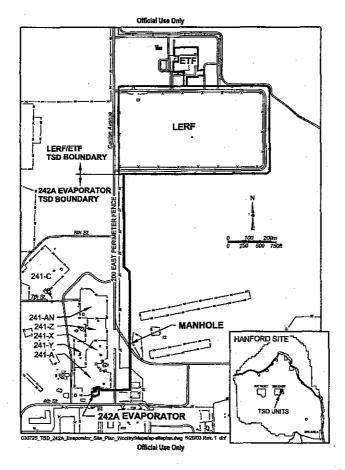
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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 1.0, Replace Figure: Replace Chapter 1.0 with the attached Chapter 1.0.

Site Plan 242-A Evaporator



			·	<u> </u>			
Modification Cl	ass: 123			Class 1	Class 11	Class 2	Class 3
Please check on	e of the Cl	asses:		X			
Relevant WAC	173-303-8	30, Appendix I M	odification:	A.1			
A. General Per	mit Provis	fication from WA ions Informational cha		Appendix I cit	ation		
Submitted by Co	-Operator: _ <i>l ≥ t≥ 6</i> ≥	Reviewed by DOE	Program Office: [১((৪)বি	Reviewed by	opalo4	Reviewed by I	Ecology: <u>2</u> 25 04
E. Aromi	Date	J. Swailes	Date	F. Jamison	Date	E. R. Skinnarland,	Date
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Hanford Facility RCRA Permit Modification Notification Form

Unit:

242-A Evaporator

Permit Part & Chapter:
Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 1.0, Replace Figure: Replace Chapter 1.0 with the attached Chapter 1.0.

Tank C-100

42 in. Vapor Line

Primary Condenser
E-C-1

Aftercondenser
E-C-2

Aftercondenser
E-C-3

Platform 40 ft-6 in.

Platform 40 ft-6 in.

12 in. Used Raw
Water Line

Used Raw Water
Monitoring System

Condensate
Flow Measurement
Tank C-103

Frocess Condenser
Pump
P-G-100

Elevation 10 ft-6 in.

Condensate
Condensate
Flow Measurement
Flow M

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

A.1

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and Informational changes

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E. Aromi	Date	J. Swailes	Date	F. Jamison	Date	E. R. Skinnarland,	Date

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Page 8 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 2.0, §2.0: Replace Chapter 2.0 with the attached Chapter 2.0. 2.0 UNIT DESCRIPTION The 242-A Evaporator unit description and general provisions were provided in the Part B permit application. Chapter 2.0 (DOE/RL-90-42, Rev. 0). Ecology guidance document (Publication #95-402) was used to prepare the Part B permit application and does not require this information to be included in the unit-specific operating Permit. The exception to this is the topographic map (refer to Section 2.1). DOE/RL-90-42, Chapter 2.0 was used for the sole purpose of permitting the 242-A Evaporator and as such has not been updated since the time of permit issuance. A brief unit description is provided in Attachment 35, Chapter 1.0 and further detail is provided in Attachment 35, Chapter 4.0, Process Description of this Permit. Seismic consideration information is provided in Attachment 33, Chapter 2.0, §2.3 (DOE/RL-91-28, General Information Portion). Traffic information is provided in Attachment 33. Chapter 2.0, §2.4 (DOE/RL-91-28, General Information Portion). Modification Class: 123 Class 1 Class ¹1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology: 12/12/03 12/12/03 J. Swailes E. Aromi F. Jamison Date/ Date Date E. R. Skinnarland. Date

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Page 9 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 3.0, §3.1: Replace Chapter 3.0 with the attached Chapter 3.0. 3.1 INTRODUCTION This waste analysis plan (WAP) addresses analysis necessary to manage the waste at the 242-A Evaporator according to Resource Conservation and Recovery Act (RCRA) requirements included in the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste (Ecology and EPA 1994), Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement, Ecology et., al. 1996)2003, Washington Administrative Code (WAC), Chapter 173-303, and Part 264 of the Code of Federal Regulations. Modifications of the WAP require modifications of the permit. Permit modifications are discussed in Section I.C of the Hanford Facility RCRA Permit and WAC 173-303-830. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology Reviewed by Ecology:

J. Swailes

Date

E. Aromi

12/18/03

Date

F. Jamison

E. R. Skinnarland.

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Page 10 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 3.0, added Figure 3.1: Replace Chapter 3.0 with the attached Chapter 3.0. Figure 3.1. 242-A Evaporator Simplified Schematic Modification Class: 123 Class 1 Class 11 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Date E. Aromi wailes Date F. Jamison R. Skinnarland.

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Page 11 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.0: Replace Chapter 4.0 with the attached Chapter 4.0. PROCESS INFORMATION The 242-A Evaporator receives mixed waste from the DST System that contains inorganic and organic constituents and radionuclides. A 242-A Evaporator simplified process flow diagram is given in Figure 4.1. The 242-A Evaporator separates the mixed waste received from the DST System, generating the following waste streams:

- A concentrated aqueous waste stream (slurry) containing the nonvolatile components, including most of the radionuclides, inorganic constituents, and nonvolatile organics such as tri-butyl phosphate
- A dilute aqueous waste stream (process condensate) containing the volatile components, primarily water with low concentrations of radionuclides, inorganic constituents, and volatile constituents such as ammonia and acetone.

The slurry is routed back to the DST System pending further treatment. The process condensate is transferred to the LERF for storage until processed through the ETF.

The 242-A Evaporator process employs a conventional forced circulation, vacuum evaporation system to concentrate the DST System waste solution. The major components of this system include the reboiler, vapor-liquid separator, recirculation pump and pipe loop, slurry product pump, condenser, jet vacuum system, and condensate collection tank, and an optional ion exchange system.

Vapors are drawn from the vapor-liquid separator through a 42-inch/diameter vapor line and enter a series of three condensers where the vapors are condensed using raw water. The condensed vapors, called process condensate, are collected in tank C-100. Steam jets are used to create a vacuum on the vapor-fiquid separator drawing the process vapors into and through the condensers. Noncondensable vapors are drawn from the condensers through a series of particulate filters and vented to the atmosphere. The air discharges are monitored continuously when the 242-A Evaporator is operating to verify that standards for radionuclide and ammonia emissions standards are met.

Process condensate contains the volatile constituents of the waste and trace quantities of inorganic materials and radionuclides. The process condensate could be passed through an item exchange column to reduce the radionuclide content if necessary. The process condensate is pumped from tank C-100 through an encased underground pipeline (pipe-within-a-pipe) to the LERF.

Other discharges during 242-A Evaporator processing include condensate from the steam used to heat the waste and cooling water used to condense the vapors. The 242-A Evaporator is/designed to prevent contamination of these streams. The fluids on the uncontaminated side of the heat exchangers are maintained at a higher pressure than the waste stream so that uncontaminated fluid migrates toward the contaminated waste if a leak were to occur. The steam condensate is discharged to the TEDF. The cooling water is monitored continuously for radiation and discharged to TEDF as long as the discharge radiation limits are not exceeded. The steam condensate and cooling water streams were assessed in the stream specific reports (WHC 1990a and WHC 1990b) and

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Hanford Facility RCRA Permit	Modification I		··	
Unit: 242-A Evaporator	Part i	Permit Part II, Chapter 5 a		nt 35
Description of Modification:		,		
Chapter 4.0, §4.1.2: Replace Chapter 4.0 with the attached	Chapter 4.0.		`** •	
4.1.2 PC-5000 Transfer line				
Aqueous waste from the 242-A Evaporator is transferred to	the Liquid Efflu	ant Petention	Facility (T. ED)	E) through the
PC-5000 waste transfer line. The below grade transfer line.				
pipeline, approximately 1,500 meters long. This permit inc				
Evaporator facility to the fence line of LERF.				
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Page 13 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.1.3.1: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.3.1 Condensate Collection Tank (C-100) and Ancillary Equipment The following section discusses the condensate collection tank (C-100) and ancillary equipment. This equipment collects process condensate via the condensers in the vacuum condenser system, filters the condensate, removes additional radionuclides, if necessary, and pumps the process condensate to LERF. Figure 4.4 provides a simplified process flow diagram showing the major components of the process condensate system. The following major components make up the process condensate system: Vacuum condenser system Condensate collection tank (C-100) Process condensate pump (P-C-100) Condensate filters (F-C-1, F-C-2, and F-C-3) Ion-exchange column (IX-D-1) Radiation monitoring and sampling system (RC-3) Seal pot Condensate Recycle System. Modification Class: 123 Class 1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: ewed by Ecology. 12/12/03 2/18/2

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J. Swailes

E. Aromi

Date

F. Jamison

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Hanford Facility RCRA Permit Modification Notification Form

Unit: 242-A Evaporator

Permit Part & Chapter:

Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 4.0, §4.1.3.1: Replace Chapter 4.0 with the attached Chapter 4.0.

Process Condensate Pump. A pump (P-C-100) moves the process condensate from tank C-100 through the condensate filter and the ion exchange column (if in service) to LERF. The process condensate pump is a centrifugal pump constructed of 316 stainless steel.

Condensate Filters. After leaving the condensate collection tank, the process condensate is filtered to remove solids. The primary condensate filter (F-C-1) has a welded steel housing. A second filter system (F-C-3), installed downstream of the ion exchange column, is also used to filter the process condensate. This system has duplex in-line filters in a cast iron housing. Only one of the filters is used at a time. Both filters employ a filter material that is compatible with the process condensate.

Ion Exchange Column. Ion exchange column (IX-D-1) is available to reduce the cesium and strontium content in the process condensate if necessary. The determination whether the column is needed is made before the start of a campaign based on the evaluation of the expected radionuclide levels in the process condensate using candidate feed tank data.

The ion exchange column is 1.2 meters in diameter and 4.9 meters high. The shell is 0.95 centimeters thick, A 36 carbon steel. Clinoptilolite is used as the ion exchange media. Clinoptilolite is a zeolon material, which is a family of inorganic crystalline aluminosilicate compounds (Table 4.1). Clinoptilolite fines could cause partial plugging of the bed and an increase in the column differential pressure, restricting the flow of condensate. The column can be back flushed with process condensate or raw water to remove the fines. Spent ion exchange media is flushed to the feed tank (241 AW-102). Interlocks shutdown the process condensate pump, if excessive differential pressure is detected across the column or across the upper or lower screens that hold the clinoptilolite in the column.

Table 4.1. Chemical Composition of Clinoptilelite.

Components	Typical analysis percentage
SiO ₂	72.2
Al_2O_3	12.9
CaO	0.8
MgO	0.5
Na ₂ O	3.7
K ₂ O	4.4
Fe_2O_3	0.7
MnO	0.024

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Enter wording of the modification from WAC 173-30 A. General Permit Provisions 1. Administrative and Informational changes	3-830, Appendix I cita	ation		
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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification:

Chapter 4.0, §4.1.6.1: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.6.1 Requirements for All Tank Systems

The Construction Specification for 242-A Evaporator-Crystallizer Facilities Project B-100 (Vitro 1974) was used during preparation, design, and construction of the tank and secondary containment systems. Table 2 of the IARThe integrity assessment report details how the construction specification relates to the national codes and standards.

Constructing the building and vessels per this specification ensures that foundations are capable of supporting tank and secondary containment systems and that uneven settling and failures from pressure gradients do not occur. The integrity assessment report states that the 242-A Evaporator has adequate design, sufficient structural strength, and sufficient compatibility with the wastes to not collapse, rupture, or fail during service loads associated with normal operations and that the building structure was designed and constructed to withstand a design basis earthquake".

Section 2.2.7 of the integrity assessment report describes the building and secondary containment system. This system is designed to ensure any release is detected within 24 hours. The secondary containment system also is designed to contain 100 percent of the maximum operating capacity of the vapor-liquid separator/reboiler loop, and the drain systems are sloped to allow collection of solution and have sufficient capacity to drain this volume in less than the required 24 hours.

Section 2.2.7 of the integrity assessment report describes the protective coating material and sealant used to protect concrete and joints from attack by leaks to the secondary containment. The materials of construction for the sump and drain lines are also compatible with the waste processed at the 242-A Evaporator.

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	Class 1	Class ¹ 1	Class 2	Class 3
Please check one of the Classes:	X			
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Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and Informational changes	0, Appendix I ci	<u>tation</u>		
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Page 16 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.1.6.2: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.6.2 242-A Building Secondary Containment The 242-A Building serves as a secondary containment vault for the vapor-liquid separator (C-A-1), condensate collection tank (C-100), and ancillary equipment used for transferring mixed waste at the 242-A Evaporator. The concrete for the operating area was poured to form a monolithic structure. Where needed, joints in the concrete were fabricated with preformed filler conforming to the standards of the American Society of Testing and Materials. Joint filler is sealed with a polysulfide sealant per the requirements of the construction specifications (Vitro 1974). Before restart in 1994, a new acrylic special protective coating was applied to the concrete in the pump, evaporator. and condenser rooms. The coating meets the requirements of the construction specifications (Vitro 1974), including resistance to very high radiations doses, temperatures of 77°C, and spills of 25 percent caustic solution. The following five rooms contain equipment used to process mixed waste: Pump room Evaporator room Condenser room •Ion exchange-room Load out and hot equipment storage room. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes

Date

E. Aromi

Submitted by Co-Operator: Reviewed by DOE Program Office:

J. Swailes

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Date

Reviewed by Ecology:

Date

F. Jamison

Reviewed by Ecology:

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Page 17 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.1.6.2.3: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.6.2.3 **Condenser Room** The condenser room secondary containment walls are 0.36- to 0.56-meter-thick reinforced concrete. The secondary containment floor is 0.51-meter-thick reinforced concrete. The condenser room contains all the components of the process condensate system described in Section 4.1.1.2, including tank C-100.—The exception is the ion exchange column, which is located in a separate room. Leaks in the condenser room flow to two floor drains that join and route through a 6-inch line to feed tank 241-AW-102. Leaks in the condenser room are detected by the following: Unexpected changes in liquid level in tank C-100. Instrumentation is provided to monitor liquid level in the tank, including high- and low-level alarms. Daily visual inspections of process condensate system components and piping. The floor and walls of the condenser room up to an elevation of 1.2 meters are painted with a special protective coating. Modification Class: 123 Class 11 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes

Date

E. Aromi

Submitted by Co-Operator: Reviewed by DOE Program Office:

J. Swailes

2/18/63

Date

Reviewed by Ecology

F. Jamison

Reviewed by Ecology:

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Page 18 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.1.4.2.4: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.4.2.4 Ion Exchange Room The ion exchange room secondary containment walls are 0.30-meter-thick reinforced concrete. The secondary containment floor is 0.13 meter thick reinforced concrete. The room contains the ion exchange column (IX-D-1). which could be used to provide further radionuclide decontamination of the process condensate. The room also contains a line to empty the column to tank 241-AW-102. This double encased line leaves the building and combines with the pump room sump overflow line. Leaks in the ion exchange room flow to a floor drain that connects with the condenser room drain line routed to feed tank 241-AW-102. Leaks are detected by opening the hatch between the condenser room and the ion exchange room daily when the ion exchange column is in service and performing a visual inspections of the piping and floor drain. The floor, walls, and ceiling of the room are completely painted with a special protective coating. Modification Class: 123 Class ¹1 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: **A.1** Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology: 121(A 03 E. Aromi Date J. Swailes Date F. Jamison E. R. Skinnarland.

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 4.0, §4.1.6.2.5: Replace Chapter 4.0 with the attached Chapter 4.0.

4.1.6.2.5 242-A Building Drain Lines

Figure 4.6 provides a simplified process flow schematic of sources routed to the 242-A Building drain lines. Three lines serve to drain the 242-A Building and equipment to feed tank 241-AW-102:

- Pump room sump drain line (DR-334): a 10-inch carbon steel line that transfers overflow and empty-out of the pump room sump
- Vapor-liquid separator vessel drain line (DR-335): a 10-inch carbon steel line that allows gravity drain of the vessel to the feed tank
- Condenser room drain line (DR-343): a 6-inch carbon steel line that drains leakage from the condenser room-and ion-exchange room..

In addition, the ion exchange column drain has a separate drain line (DR-338) that also routes process condensate that has been diverted because of high radiation levels. This 3-inch carbon steel line exits the building and connects with the pump room sump drain line (DR-334) outside of the building.

• The three lines are sloped to drain about 170 meters to feed tank 241-AW-102 via the drain pit (241-AW-02D). Although WAC 173-303-640(1)(c) exempts systems that serve as secondary containment from requiring secondary containment, drain lines DR-334, DR-335, and DR-338 have outer encasement piping.

The drain lines are connected to a cathodic protection system to prevent external corrosion from contact with the soil. The cathodic protection system consists of:

- · A rectifier that converts supplied alternating current voltage to an adjustable direct current voltage
- Numerous anodes buried near the underground piping and connected to the rectifier.
- Return wiring that connects the piping to the rectifier, completing the circuit.

The rectifiers are inspected to component degradation has not occurred. Test stations along the system are checked annually to verify 0.85 volt is maintained on the system, as required by the National Association of Corrosion Engineers. These inspections are discussed in Attachment 35, Chapter 6.0.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
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Hanford Facility RCRA Permit	Modification			
Unit: 242-A Evaporator	Part	Permit Part III, Chapter 5 a		nt 35
Description of Modification:				
Chapter 4.0, §4.1.6.3: Replace Chapter 4.0 with the attache	d Chapter 4.0.			N (
4.1.6.3 Transfer Line Containment				
This section describes the design and operation of secondar between the DST System and the 242-A Evaporator. The tr secondary containment and a leak detection system (DOE/R cathodic protection system described in Section 4.1.4.2.6.1	ansfer line for p	rocess condens	sate to LERF a	ilso has
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Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by	- 0 m	Reviewed b	by Ecology:

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Page 21 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, §4.1.7: Replace Chapter 4.0 with the attached Chapter 4.0. 4.1.7 Variances from Secondary Containment Requirements Section 7.2 of the integrity assessment report discusses the following three deficiencies associated with the secondary containment system: Pump Room Sump. The pump room sump does not comply with secondary containment requirements because liquid must be kept in the sump to provide a seal to prevent airflow between the pump room and feed tank 241-AW-102. Although the sump has a 0.63-centimeter-thick stainless steel liner to prevent corrosion of the concrete floor, the sump does not have secondary containment. Routine Discharges through Secondary Containment. The configuration of the 242-A Evaporator process requires routine, batch discharges of dangerous waste through secondary containment drain lines. These routing discharges include the following. Steam condensate, cooling water, and process condensate sample stations drain to the feed tank, 241-AW-102, through drain line DR-343. Total discharge is about 38 liters per month during operation. Sample bottle water sprays down in the feed and sturry sample stations drain to the decontamination sump in the load out and hot equipment storage room. The decontamination sump then drains to the pump room sump. Total discharge is about 76 liters per month during operation. Ion exchange column back flushed with water diains through line DR-338 to the feed tank 241 AW-102. Back flushes are performed as needed when the ion exchange column is in use. Transfer Piping Wall Penetrations. Three dangerous waste transfer line piping sections passing through the 242-A Building wall are single-walled, i.e., no secondary confinement in the wall (about 56-centimeter-thick reinforced concrete). These deficiencies were identified to Ecology in a presentation on October 28, 1993 and a letter response from Ecology was provided (Ecology 1993). The Ecology's response stated, "No physical revision of the pipe wall penetrations or the floor drains in the evaporator pump room will be required prior to evaporator restart." The letter response required the following. If at any time leakage is seen or detected from either of these installations, or if for any reason these installations are repaired or rebuilt, they will be rebuilt or repaired in accordance with regulations. Should a spill occur in the evaporator pump room, the sump and the piping shall be rinsed three times as required in WAC 173-303-160 as appropriate. 'Appropriate' in this case means that the original regulation was written for a free container, not a sump, so that judgment will have to be used in the application of the regulation. The rinsate shall be transferred to the double-shell tanks. Modification Class: 123 Class ¹1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: **A.1** Enter wording of the modification from WAC 173-303-830, Appendix I citation

Date

1. Administrative and Informational changes

A. General Permit Provisions

Submitted by Co-Operator:

E. Aromi

Date

Reviewed by DOE Program Office:

J. Swailes

Reviewed by Ecology:

F. Jamison

Reviewed by Ecology:

E. R. Skinnarland.

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				Page 22 of 34
Hanford Facility RCRA Permit	Modification	Notification F	orm	
Unit:		Permit Part		
242-A Evaporator Description of Modification:	Part	III, Chapter 5 a	ind Attachmei	nt 35
	CT			
Chapter 4.0, §4.1.9: Replace Chapter 4.0 with the attached	Chapter 4.0.			
4.1.9 Labels or Signs				
A labeling upgrade was completed before restart in 1994 for associated with waste stored within the tank. Tank C-100 at alert trained personnel which pipes in the condenser room of (C-A-1) is located in the evaporator room, a normally unocuted with ALARA access controlled and limited to trained person tank enclosure rooms, which are less than 15 meters from themet.	ncillary piping tontain dangerou cupied area. The nnel only. The	is labeled "PRC as waste. The v is area is posted tank labels are	CESS COND apor-liquid se t as a high radi visible from th	ENSATE" to parator ation area e walls of the
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		•		
Modification Class: 12 3	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and Informational changes	Appendix I cit	ation		
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by	Ecology;	Reviewed b	y Ecology:

Swailes

Date

E. Aromi

Date

F. Jamison

Date DE. R. Skinnarland,

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Page 23 of 34 Hanford Facility RCRA Permit Modification Notification Form					
Unit:			rt & Chapter:		
242-A Evaporator	Part ii	I, Chapter 5	and Attachme	nt 35	
Description of Modification:					
Chapter 4.0, §4.1.12: Replace Chapter 4.0 with the attached	l Chapter 4.0.				
4.1.12 Management of Incompatible Wastes in Tar	nk Systems	_			
Data Quality Objectives for Tank Farm-Waste Compatibility ensure that waste transferred within the DST-System is 242-transferred to the 242-A-Evaporator also must meet these reconstruction material is discussed in Section 4.3.3 of the IA (Attachment 35, Chapter 3.0) also includes waste compatibility	A Evaporator mu quirements. Wa R (Attachment 3	<u>ist be</u> compa ste compatib 5, Appendix	tible before mix ility with tank s	ing. -Waste ystem	
	<i>,</i>				
Modification Class: 123	Class 1	Class 11	Class 2	Class 3	
Please check one of the Classes:	X				
Relevant WAC 173-303-830, Appendix I Modification:	A.1				
Enter wording of the modification from WAC 173-303-830. A. General Permit Provisions 1. Administrative and Informational changes	, Appendix I cita	tion			
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by	Ecology:	Reviewed by	y Ecology:	
E. Aromi Date J. Swailes Date	F. Jamison	Date	E. R. Skinnarlan	d, Date	

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 4.0, §4.2.1: Replace Chapter 4.0 with the attached Chapter 4.0.

4.2.1 Applicability of Subpart AA Standards

The 242-A Evaporator performs distillation that specifically requires evaluation of process vents for the applicability of 40 CFR 264 Subpart AA.

Waste processed at the 242-A Evaporator routinely contains greater than 10 parts per million organic concentrations; therefore, organic air emissions are subject to 40 CFR 264.1032, which requires organic emissions from all affected vents at the Hanford Facility be less than 1.4 kilograms per hour and 2.8 megagrams per year, or control devices be installed to reduce organic emissions by 95%. For a list of applicable vents at the Hanford Facility, refer to the Attachment 33, General Information Portion, Chapter 4.0 (DOE/RL-91-28).

The 242-A Evaporator has one process ventilation system that vents both the vapor-liquid separator (C-A-1) and the condensate collection tank (C-100). The vent lines from both tanks combine before entering an off-gas system consisting of a deentrainer, a prefilter/demister, HEPA filters, and an exhaust fan. The vessel vent off-gas system is located on the third floor of the condenser room, with the exhaust stack extending horizontally through the east wall of the building at an elevation of 14.7 meters above ground level. The exhaust stack bends to run vertically with the discharge point 18.6 meters above ground level.

The annual average flow rate for the vessel vent is given in *Radionuclide Air Emissions Report for the Hanford Site - Calendar Year 1995* (DOE-RL 1996) as 18 cubic meters per minute and the total annual flow was 9.6 E+06 cubic meters. During waste processing, the airflow is about 20.5 cubic meters per minute, with about 4.3 cubic meters per minute ventilated from tank C-100 and the remainder from the vapor-liquid separator and air inleakage.

Organic emissions occur during waste processing, which is less than 6 months (182 days) each year. This is the maximum annual operating time for the 242-A Evaporator, as shutdowns are required during the year for maintenance outages, candidate feed tank analysis, and establishing transfer routes for staging waste in the DST System. The total operating time for the two campaigns in 1994 was 86 days.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and Informational changes), Appendix I cita	ation_	4	
Submitted by Co-Operator: Reviewed by DOE Program Office C	12.0%	- Oper	Reviewed by SE. R. Skinnarland	2/25/04

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Part III, Chapter 5 and Attachment 35

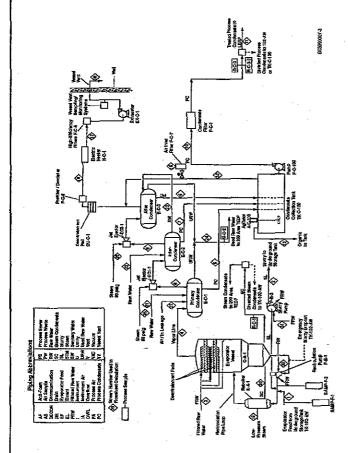
Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter:

Description of Modification:

Chapter 4.0, Figure 4.1: Replace Chapter 4.0 with the attached Chapter 4.0.

Figure 4.1. 242-A Evaporator Simplified Process Flow Diagram Added figure.

242-A Evaporator



Modification Class: 123		Class 1	Class 11	Class 2	Class 3
Please check one of the Classe	:s:	X			
Relevant WAC 173-303-830,	Appendix I Modificati	ion: A.1			1.
Enter wording of the modifica A. General Permit Provisions 1. Administrative and Info		03-830, Appendix I ci	tation		·
	iewed by DOE Program	Office: Reviewed b	y Faology	Reviewed by	D 1

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Page 26 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, Figure 4.4: Replace Chapter 4.0 with the attached Chapter 4.0. Figure 4.4. 242-A Evaporator Process Condensate System Modification Class: 123 Class¹1 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology 141218 [21/8/02 E. Aromi (Date J. Swailes Date 🛂 R. Skinnarland, F. Jamison Date Date

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 4.0, Figure 4.4: Replace Chapter 4.0 with the attached Chapter 4.0. 242-A Evaporator Drain System Sondenser Room Toor Drain AMU Floor Drains SC Sampler Drain Condensate Recycle Drain PC Sampler Drains Survey Room Floor Drains. AMU Tank Drains TK-C-100 Drain F-C-3 Filter Flush TK-C-100 Overflow Flush To Feed Tank 241-AW-102 (DR-343) Diverted Process Condensate Loadout Room Floor Drain Vapor-Liquid Separator Drain Diverted Steam Condensate Steam P-B-1, P-B-2 Seal Leakage From Recirculation Decon Room Sump Drain Pump Room Floor Evap Room Floor Drain Line To Feed Tank To Feed Tank 241-AW-102 (DR-335) 241-AW-102 Pump Room Sump M0312-2.2 12-10-03 Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology 112107 J. Swailes E. Aromi Date Date E. R. Skinnarland. F. Jamison Date Date

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Page 28 of 34 **Hanford Facility RCRA Permit Modification Notification Form** Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 6.0, §6.1: Replace Chapter 6.0 with the attached Chapter 6.0. **SECURITY** 6.1 The following sections describe the security measures, equipment, and warning signs used to control entry to the 242-A Evaporator. Hanford Facility security measures are discussed in the Attachment 33, Chapter 6.0, §6.1, General Information Portion (DOE/RL-91-28). 24-hour Surveillance System 6.1.1.1 The entire Hanford Facility Site is a controlled-access area with around-the-clock access control. For surveillance information refer to Attachment 33, Chapter 2.0, §6.1.1, General Information Portion (DOE/RL-91-28). Modification Class: 123 Class 11 Class 1 Class 2 Class 3 Please check one of the Classes: X Relevant WAC 173-303-830, Appendix I Modification: A.1 Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes Submitted by Co-Operator: Reviewed by DOE Program Office: Reviewed by Ecology: Reviewed by Ecology: 12/14/63 E. Aromi Date J. Swailes Date F. Jamison Date E. R. Skinnarland, Date

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Page 29 of 34 Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35 Description of Modification: Chapter 6.0, §6.2.2.2: Replace Chapter 6.0 with the attached Chapter 6.0. 6.2.2.2 Visual Inspections Visual inspections of tanks and secondary containments are performed to check for leaks, signs of corrosion or damage, and malfunctioning equipment. Inspections also include housekeeping checks to ensure aisle space requirements are met. The following rooms containing dangerous waste are inspected: Condenser room Pump room Loadout and hot equipment storage room Loading room -Ion-exchange column room. In addition, the AMU room is inspected when hazardous materials are present in the room. Inspection of the ion exchange column room is required only when mixed waste is present in the ion exchange column or piping. The vapor-liquid separator is located in the evaporator room, with a portion of the recirculation loop located in the pump room. Because of the high radiation dose in the evaporator room, visual inspections cannot be performed. Leaks in the evaporator room drain to the pump room sump; monitoring of the pump room sump instrumentation is performed to determine if leaks have occurred. Visual inspection of the portion of the recirculation loop located in the pump room is performed through the shielding window on the AMU mezzanine. Modification Class: 123 Class ¹1 Class 2 Class 1 Class 3 \mathbf{x} Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and Informational changes

Date

E. Aromi

Submitted by Co-Operator: Reviewed by DOE Program Office:

J. Swailes

12/12/03

Date

Reviewed by Ecology;

Date

F. Jamison

Reviewed by Ecology:

Date

E. R. Skinnarland,

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Hanfard Facility DODA Downia	Page 30 of 34
Unit:	Modification Notification Form Permit Part & Chapter:
242-A Evaporator Description of Modification:	Part III, Chapter 5 and Attachment 35
Chapter 7.0: Replace Chapter 7.0 with the attached Chapter	or 7.0.
Marked Chapter 7.0 as Official Use Only.	
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Modification Class: 123	Class 1 Class ¹ 1 Class 2 Class 3
Please check one of the Classes:	X
Relevant WAC 173-303-830, Appendix I Modification:	A.1
Enter wording of the modification from WAC 173-303-830), Appendix I citation
A. General Permit Provisions 1. Administrative and Informational changes	
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by Ecology: Reviewed by Ecology:
Z.Q. 12/12/23 Lord 12/19/03	10 M
E. Aromi Date J. Swailes Date	F. Jamison Date E. R. Skinnarland, Date

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: 242-A Evaporator Part III, Chapter 5 and Attachment 35

Description of Modification:

Chapter 11.0, §11.1: Replace Chapter 11.0 with the attached Chapter 11.0.

11.1 CLOSURE PLAN/FINANCIAL ASSURANCE FOR CLOSURE

The 242-A Evaporator will be clean closed with respect to dangerous waste contamination that resulted from operation as a TSD unit. To facilitate closure, the 242-A Evaporator is being viewed as consisting of six components: tanks, ancillary equipment, piping, concrete floors/liners, structures, and underlying soil. Only areas that have treated, stored, or handled dangerous waste will undergo closure activities. Remedial actions with respect to contamination that was not a result of use of these areas for treatment, storage, or handling of dangerous waste are outside the scope of this closure plan.

Contaminated equipment, tanks, and piping removed from the 242-A Evaporator will be considered "debris" and transported to an appropriate permitted treatment, storage, or disposal unit for final disposition. Uncontaminated structures either-will be left for future use or disassembled, dismantled, and removed for disposal. Uncontaminated equipment and structures could include aqueous makeup, HVAC and piping, steam condensate and cooling water piping, and the control room and office areas.

The pipes located west and north of the 242-A Evaporator, which connect to A Farm and AW Farm, are in the same bundles with pipes used for transfers between tanks in the DST System. To minimize radiation exposure during closure, these pipes will be closed at the same time the piping for the DST System is closed. Closure of these pipes will be performed per Double-Shell Tank System Dangerous Waste Permit Application (DOE/RL-90-39). The pipelines between the 242-A Evaporator and the 207-A pump pit, and in the 207-A pump pit, which were previously used for transfer of process condensate, will be closed per this closure plan.

Clean closure requires decontamination or removal and disposal of all dangerous waste, waste residues, contaminated equipment, soil, or other material established in accordance with the clean closure performance standards of WAC 173-303-610(2). This and future closure plan revisions will provide for compliance with these performance standards. All work will be performed as low as reasonably achievable (ALARA) with respect to worker exposure to dangerous and/or any other workplace hazards. Activities that are planned to achieve clean closure are presented in the following sections.

Modification Class: 123	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modificatio	n: A .1			
Enter wording of the modification from WAC 173-30. A. General Permit Provisions 1. Administrative and Informational changes	3-830, Appendix I cit	ation		
	Office: Reviewed by Parison	- other	Reviewed by M. Wavia R. Skinnarland,	2/25/04

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		···.		Page 32 of 34
Hanford Facility RCRA Permit	Modification			
Unit: 242-A Evaporator	Part	Permit Part III, Chapter 5 a		nt 35
Description of Modification:				
Chapter 11.0, §11.3.4: Replace Chapter 11.0 with the attac	hed Chapter 11.	0.		
11.3.4 Decontaminating Structures, Equipment, a	nd Soils			
Before closure activities begin, all waste inventory inventor and/or external piping, ancillary equipment, concrete floors will be decontaminated, as necessary, to demonstrate that the Removal and disposal of most of the components will be defined by demonstrating that the concrete/line.	l/liners, structure ne clean closure etermined at the	es, and soil dire performance st time of closure	ctly beneath thandards are m . Clean closur	ne structure et. re of the soil
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and Informational changes	, Appendix I cit	ation		
Submitted by Co-Operator: Reviewed by DOE Program Office:	11/1/	Ecology:	Reviewed b	y Ecology:
E. Aromi Date J. Swailes Date	F. Jamison	Date 1	R. Skinnarlan	id, Date

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Page 33 of 34 Hanford Facility RCRA Permit Modification Notification Form						
Unit:	WOUTHCALION I		rt & Chapter:			
242-A Evaporator	Part I		and Attachmen	t 35		
Description of Modification:						
Chapter 12.0: Remove Chapter 12.0 and replace with Perm	it Condition III.	5.B.2				
III.5.B.2 Permittees must comply with all applicable pofacility and unit-specific recordkeeping require Attachment 33, General Information Portion, Sitewide RCRA Permit conditions.	ements are distir	iguished in th	e RCRA Permit,			
Modification Class: 123	Class 1	Class 11	Class 2	Class 3		
Please check one of the Classes:	X					
Relevant WAC 173-303-830, Appendix I Modification:	A.1					
Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and Informational changes	, Appendix I cita	ation				
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by	Ecology:	Reviewed by	Ecology:		
E. Aromi Date J. Swailes Date	F. Jamison	Date	E. R. Skinnarland	l, Date		

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Page 34 of 34 Hanford Facility RCRA Permit Modification Notification Form						
Unit.	Permit Part & Chapter:					
242-A Evaporator	Part III, Chapter 5 and Attachment 35					
Description of Modification:						
Chapter 13.0: Remove Chapter 13.0.						
·						
	,					
/						
Modification Class: 123	Class 1 Class ¹ 1 Class 2 Class 3					
Please check one of the Classes:	X					
Relevant WAC 173-303-830, Appendix I Modification:	A.1					
Enter wording of the modification from WAC 173-303-830	·					
A. General Permit Provisions	, rippondix i chanon					
1. Administrative and Informational changes						
Submitted by Co-Operator: Reviewed by DOE Program Office:	Reviewed by Ecology: Reviewed by Ecology:					
E.Q 14/3/02 July () (11/02)						
E. Aromi Date J. Swailes Date	F. Jamison Date E. R. Skinnarland, Date					
Date 1. Swalles Date	1. Jameson Date E. K. Skimianand, Date					

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Hanford Facility RCRA Permit Modification Notification Forms Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility

December 31, 2003

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Page 6 of 42:	Chapter 3.0, §3.1.2	Page 27 of 42:	Chapter 4.0, §4.6.1
Page 7 of 42:	Chapter 3.0, §3.2.1.2	Page 28 of 42:	Chapter 4.0, §4.6.3.2
Page 8 of 42:	Chapter 3.0, §3.2.2.1	Page 29 of 42:	Chapter 4.0, Figures
Page 9 of 42:	Chapter 3.0, §3.2.2.2.1	Page 30 of 42:	Chapter 6.0, §6.1, and 6.1.1.1
Page 10 of 42:	Chapter 3.0, Table 3.2	Page 31 of 42:	Chapter 6.0, §6.1.1.2
Page 11 of 42:	Chapter 3.0, §3.3.1	Page 32 of 42:	Chapter 7.0, §7.3.2.4
Page 12 of 42:	Chapter 3.0, §3.4.2	Page 33 of 42:	Chapter 7.0, §7.3.2.5
Page 13 of 42:	Chapter 3.0, Table 3.3	Page 34 of 42:	Chapter 7.0, §7.4.3
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Page 15 of 42:	Chapter 3.0, §3.6.1.1	Page 36 of 42:	Chapter 11.0, §11.2.4
Page 16 of 42:	Chapter 3.0, §3.6.1.3	Page 37 of 42:	Chapter 11.0, §11.3.4.1
Page 17 of 42:	Chapter 3.0, §3.6.3	Page 38 of 42:	Chapter 11.0, §11.3.4.3
Page 18 of 42:	Chapter 3.0, §Table 3.6	Page 39 of 42:	Chapter 11.0, §11.3.4.5
Page 19 of 42:	Chapter 3.0, Figures	Page 40 of 42:	Chapter 11.0, §11.3.4.6
Page 20 of 42:	Chapter 4.0, §4.0	Page 41 of 42:	Chapter 12.0, §12.0
Page 21 of 42:	Chapter 4.0, §4.2.3	Page 42 of 42:	Chapter 13.0, §13.0
Page 22 of 42:	Chapter 4.0, §4.2.4	·	

	Hanford Facility RCRA Permit	Modification No			
	Unit:		Permit Part	•	
	quid Effluent Retention Facility & D Area Effluent Treatment Facility	Part I	il, Chapter 4 a	and Attachment	34
Description of					
	ty RCRA Permit, Condition III.4.A:				
114111014 1 40111		TER 4			
	Liquid Effluent Retention Facility and		t Treatment I	Facility	•
This Chapter se Facility (ETF).	ts forth the operating Conditions for the Liquid E	ffluent Retention Fa	cility (LERF)	and the Effluent	Treatment
ПІ.4.А	COMPLIANCE WITH APPROVED PERMIT A	APPLICATION			
Condition III.4.	shall comply with all requirements set forth in At B, if any exist. Enforceable portions of the applic e portions are also enforceable, unless stated othe	ation are listed belo	ing the Amend	lments specified ions, figures, and	in tables
Chapter 1.0	Part A, Form 3, Dangerous Waste Permit LERF, Part A, Form 3, Dangerous Waste Permit 200 An December 31, 2003		BA, from Clar	§ 1 Modification	ı dated
Chapter 2.0	Unit Description from Class 1 Modification date	ed March /2003			
Chapter 3.0	Waste Analysis Plan, from Class 1 Modification	dated March Decem	<u>ıber 31,</u> 2003		
Chapter 4.0	Process Information, from Class 1 Modification	dated March Decen	nber 31, 2003		
Chapter 5.0	Ground Water Monitoring (PNNL-11620 AND) March 2003	WHC-SD-EN-AP-0	24), from Clas	ss 1 Modification	dated
Chapter 6.0	Procedures to Prevent Hazards, from Class 1 Mo	odification dated Ma	reh December	<u>31,</u> 2003	
Chapter 7.0	Contingency Plan, from Class I Modification da	ited March Decembe	<u>r 31,</u> 2003	•	
Chapter 8.0	Personnel Training, from Class 1 Modification	lated March 2003			
Chapter 11.0	Closure and Financial Assurance, from Class 1 1	Modification dated P	March Decemb	er 31, 2003	
Chapter 12.0	Reporting and Recordkeeping, from Class 1 Mo	dification dated Mar	reh-2003		
Chapter 13.0	Other Federal and State Laws, from Class 1 Mod	dification dated Mar	rch 2003		
Ш.4.В.	AMENDMENTS TO THE APPROVED PERM	IT APPLICATION			
III.4.B.1.	Interim status Groundwater Monitoring Plan for WHC-SD-EN-AP-024	the 200 East Area I	Liquid Effluen	t Treatment Faci	lity,
III.4.B.2.	Permittees must comply with all applicable port				
	and unit-specific recordkeeping requirements are Information Portion, Table 12.1 (DOE/RL-91-20 conditions.				
Modification (Class: 123	Class 1	Class 11	Class 2	Class 3
Please check or	ne of the Classes:	X			
Relevant WAC	173-303-830, Appendix I Modification:	A.1.		-	
Enter wording	of the modification from WAC 173-303-830, App	endix I citation			
A. General Pe 1. Admir	rmit Provisions istrative and informational changes.		· ·.		· ·
Submitted by C	Co-Operator: Reviewed by KL Program Office:	Reviewed by B	Ecology:	Reviewed by	/ Ecology:
R. T. Wilde		F. Jamison	Date I	3. R. Skinnarlar	d Date
	- VIV				

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Page 3 of 42

Unit: Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility	Par		& Chapter:				
200 Area Effluent Treatment Facility	Par		Permit Part & Chapter:				
C3.5 11°C 11°C		t III, Chapter 4 a	nd Attachment :	34			
Description of Modification:							
Chapter 1.0, Figures: remove and replace Chapter 1.0 with	attached Chapte	er 1.0.	`.				
Updated the Liquid Effluent Retention Facility Site Plan figure ONLY.	, and marked all	Chapter 1.0 fig	ures with OFFI	CAL USE			
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Modification Class: 123	Class 1	Class 11	Class 2	Class 3			
Please check one of the Classes:	X						
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Enter wording of the modification from WAC 173-303-830 A. General Permit Provisions 1. Administrative and informational charges.), Appendix I ci	itation					
Submitted by Co-Operator: Reviewed by R.J. Program Office:	Reviewed to	- Orakon	Reviewed by SP. Jan	is 2/25/04			
R. T. Wilde Date McCormick Date	F. Jamison	Date	E. R. Skinnarlar	nd Date			

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Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §3.1: remove and replace Chapter 3.0 with attached Chapter 3.0. 3.1 INTRODUCTION ... This WAP meets the specific requirements of the following:

- Land Disposal Restrictions Treatment Exemption for the LERF under 40 CFR 268.4, U.S. Environmental Protection Agency, December 6, 1994 (Appendix C)
- Final Delisting for ETF, 40 CFR 261, Appendix IX, Table 2 (EPA 1995)
- Washington State Waste Discharge Permit, No. ST 4500, as amended, (Ecology 20001995a)
- Dangerous Waste Portion of the Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Hanford Facility Permit WA7890008967, September 28, 1994 (Ecology 1994).

This plan also includes the specific elements of a WAP, as identified in the Dangerous Waste Permit Application Requirements (Ecology 1996a). Groundwater monitoring is addressed in Attachment 34, Chapter 5.0, Groundwater Monitoring addresses groundwater monitoring separate plans. A copy of this WAP will be available at ETF at all times.

Throughout this WAP, reference is made to radioactive waste. Although the treatment and storage of radioactive waste (i.e., source, special nuclear, and by-product materials as defined by the Atomic Energy Act of 1954) are not within the scope of the Resource Conservation and Recovery Act (RCRA) of 1976, as amended or WAC 173-303, information is provided for general knowledge where appropriate. Additionally, tThe conditions of the Washington State Discharge Permit, Number ST 4500 (Discharge Permit) are included in this WAP for completeness, although they also are not within the scope of RCRA or WAC 173-303. Therefore, revisions of this WAP that are not governed by the requirements of WAC 173-303 will not be considered as a modification subject to review or approval by Ecology. However, any revisions to this WAP will be incorporated into the Hanford Dangerous Waste Permit at least annually through the modification process.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	·			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-8	30, Appendix I ci	tation		
A. General Permit Provisions 1. Administrative and informational changes.	:			

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Page 5 of 42 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §3.1.1: remove and replace Chapter 3.0 with attached Chapter 3.0. Liquid Effluent Retention Facility and Effluent Treatment Facility Description ETF was designed to treat the contaminants anticipated in process condensate (PC) from the 242-A Evaporator and other aqueous wastes from the Hanford Site. Section 3.1.2 provides more information on the sources of these wastes. The capabilities of ETF were confirmed through pilot plant testing. A pilot plant was used to test surrogate solutions that contained constituents of concern anticipated in aqueous wastes on the Hanford Site. The pilot plant testing served as the basis for a demonstration of the treatment capabilities of ETF in the 200 Area Effluent Treatment Facility Delisting Petition (DOE/RL-92-72). The pilot plant test data also were used to establish that ETF provides best available treatment and all known, available, and reasonable methods of treatment' (BAT/AKART), as required in the permitting of ETF under the state water quality and wastewater discharge permit regulations (WAC 173-200 and WAC 173-216, respectively). Modification Class: 123 Class 11 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and informational changes.

Date

Submitted by Co-Operator:

R. T. Wilde

Reviewed by RL V

Reviewed by Ecology:

JÉ. R. Skinnarland

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

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F. Jamison

Date

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I Init

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 3.0, §3.1.2: remove and replace Chapter 3.0 with attached Chapter 3.0.

3.1.2 Sources of Aqueous Waste

ETF was intended and designed to treat a variety of radioactive and/or aqueous mixed wastes. However, PC from the 242-A Evaporator was the only mixed waste identified for storage and treatment in the LERF and ETF. As cleanup activities at Hanford progress, many of the aqueous wastes generated from site remediation and waste management activities will be sent to the LERF and ETF for treatment and storage.

The PC is a dangerous waste because it is derived from a listed, dangerous waste stored in the Double-Shell Tank (DST) System and because of the ammonia content. The DST waste is transferred to the 242-A Evaporator where the waste is concentrated through an evaporation process. The concentrated slurry waste is returned to the DST System, and the evaporated portion of the waste is recondensed, collected, and transferred as PC to the LERF.

Other aqueous wastes that will be treated and stored at the LERF and ETF include, but are not limited to the following Hanford wastes: contaminated groundwater from pump-and-treat remediation activities such as groundwater from the 200-UP-1 Operable Unit; water from deactivation activities such as water from the spent fuel storage basins at deactivated reactors (e.g., N Reactor); laboratory aqueous waste from unused samples and sample analyses; and leachate from landfills, such as the Environmental Restoration Disposal Facility.

Most of these aqueous wastes will be accumulated in batches in a LERF basin for interim storage and treatment through pH and flow equalization before final treatment in ETF. However, some aqueous wastes, such as 200-UP-1 Groundwater, may flow through LERF en route to ETF for final treatment. The constituents in these aqueous wastes are common to the Hanford Site and were considered in pilot plant testing or in vendor tests, either as a constituent or as a family of constituents.

Some of the aqueous wastes could contain tritium, a radioactive isotope of hydrogen. Because there is no economically, viable treatment technology available to remove tritium, tritium is not reduced in the treated effluent discharged to the SALDS.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830 Appendix I Modification:	A.1.	· · · · · · · · · · · · · · · · · · ·		

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

¹Class 1 modifications requiring prior Agency approval.

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Unit

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 3.0, §3.2.1.2: remove and replace Chapter 3.0 with attached Chapter 3.0.

3.2.1.2 Aqueous Waste Profile Sheet

The WPS documents the characterization of each new aqueous waste stream. The profile includes a detailed description of the volume, source, regulatory history, and the chemical and physical nature of the aqueous waste. For an aqueous waste to be accepted for treatment or storage in the LERF or ETF, each new waste stream generator is required to complete and provide this form to LERF and ETF management. Each generator also is required to provide the analytical data and process knowledge used to designate the aqueous waste stream, and to determine the chemical and physical nature of the waste. An example of a typical WPS is provided in Section 3.9. This form could be modified to accommodate changes in regulations, operational concerns at the LERF or ETF, Hanford Facility needs, or other needs. However, the basic elements of the example form (e.g., waste source information) will be maintained in any future revision.

The LERF and ETF management determine whether the information on the WPS is sufficient. The LERF and ETF management use this information to evaluate the acceptability of the aqueous waste for storage and treatment in the LERF and ETF, and to determine if the aqueous waste can be handled properly.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

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R. T. Wilde Date M. S. McCormick Date F. Jamison Date E. R. Skinnarland Date		2-12-03	//////	1/ 1/4	office:	Reviewed by Ec	124/12	AP Davis	2/25/04
	R. T. Wilde	Date /	WI!S/MECOT	mick I	Date	F. Jamison	Date	E. R. Skinnarland	Date '

¹ Class 1 modifications requiring prior Agency approval.

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					Page 8 of 42
Hanford Facility	RCRA Permit	Modification N			
Unit:			Permit Part	-	
Liquid Effluent Retention Facili 200 Area Effluent Treatment Fac	ty & cility	Pari	III, Chapter 4 a	nd Attachment	34
Description of Modification:	•		•		
Chapter 3.0, §3.2.2.1: remove and replace	Chapter 3.0 with	h attached Chapte	er 3.0.		
3.2.2.1 Regulatory Acceptability		•			•
Each aqueous waste stream is evaluated or would preclude the storage or treatment of treated in either the LERF or ETF, the regan aqueous waste is documented in the Wiwaste in the LERF or ETF is allowed under Final Delisting for ETF, and the Discharge	f a waste in the Lulatory history me PS. This informater and in complia	ERF or ETF. Be tust be determine ation is used to co ance with WAC 1	fore an aqueou d. Information onfirm that trea	is waste can be on the regulat iting or storing	stored or ory history of the aqueous
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Enter wording of the modification from V	VAC 173-303-83	Appendix Leit	ation		

¹ Class 1 modifications requiring prior Agency approval.

Date

R. T. Wilde

Administrative and informational changes.

M. S. McCormick

Date

Reviewed by Ecology:

F. Jamison

Reviewed by Ecology:

Date

Date DE. R. Skinnarland

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Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §3.2.2.2.1: remove and replace Chapter 3.0 with attached Chapter 3.0.

Treatability 3.2.2.2.1

To determine if an aqueous waste meets the criterion of treatability, specific information is required. Treatment efficiencies will be developed from characterization data provided by the generator. Generators will also provide characterization data to identify those physical and chemical properties that would interfere with, or foul ETF treatment process. In some instances, process knowledge may be adequate to identify a chemical or physical property that would be of concern. For example, the generator could provide process knowledge that the stream has two phases (an oily phase and an aqueous phase). In this case, if the generator could not physically separate the two phases, the aqueous waste stream would be rejected because the oily phase could compromise some of the treatment equipment. Typically, analyses for the following parameters are required to evaluate treatability and operational concerns:

- total dissolved solids
- total organic carbon
- total suspended solids
- magnesium
- potassium
- barium
- nitrate sulfate

- manganese
- bromide gross beta
- specific conductivity
- calcium
- sodium

- silica
- iron
- chloride
- aluminum
- phosphate
- gross alpha
- gamma.

These constituents are identified in Table 3.2.

Modification Class: 12	23			Class 1	Class 11	Class 2	Class 3		
Please check one of the Classes:									
Relevant WAC 173-3	03-830, A	ppendix I Mod	ification:	A.1.,	,				
Enter wording of the A. General Permit P 1. Administrativ	rovisions	on from WAC		Appendix I	citation				
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R. T. Wilde	Date M.	S. McCormick	Date 1/2 // S/0.2	F. Jamiso	n Date	E. R. Skinnar	land Date		

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Unit:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 3.0, Table 3.2: remove and replace Chapter 3.0 with attached Chapter 3.0.

Table 3.2. Waste Acceptance Criteria.

•	Table 3.2. Waste Accept	ance Criteria.						
General criteria category		Criteria description						
1. Characterization	A. Each generator must provide an a	aqueous waste profile.						
	B. Each generator must designate th	ne aqueous waste stream.						
		lytical data and/or process knowledge.						
2. Regulatory acceptability	A. The LERF and ETF can store and	d treat influent aqueous wastes with waste numbers						
	identified in the Part A, Form 3,	for the LERF and ETF, and the Final Delisting for ETF.						
	B. The aqueous waste must be in co	mpliance with conditions of the Discharge Permit.						
3. Operational acceptability	A. Determine whether an aqueous v	. Determine whether an aqueous waste stream is treatable, considering:						
	1. Whether the removal and d	. Whether the removal and destruction efficiencies on the constituents of concern						
	will be adequate to meet Di	will be adequate to meet Discharge Permit and Delisting levels.						
	2. Other treatability concerns;	2. Other treatability concerns; analyses for this evaluation may include:						
	total dissolved solids	silica						
	total organic carbon	potassium						
	total suspended solids	sodium						
``````````````````````````````````````	specific conductivity	barium						
	calcium	nitrate						
	magnesium	chloride						
	manganese	phosphate						
	bromide	sulfate						
	gross alpha ——	<del>gross beta</del>						
	<del>gamma</del>	iron						
	aluminum							
	B. Determine whether an aqueous v	waste stream is compatible, considering:						
		stream presents corrosion concerns; analysis may						
	include chloride and fluoric							
	2. Whether an aqueous waste	stream is compatible with LERF liner materials,						
	compare characterization d	ata to the liner compatibility limits (Table 3.1).						
		stream is compatible with other aqueous waste(s). (A						
	40 CFR 264 Appendix V t	ype of comparison will be employed).						

Modification Class: 123	Class 1	Class 1	Class 2	Class 3
Please check one of the Classes:	X	7 4		
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-	830, Appendix I ci	tation		
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R. T. Wilde Date M. S. McCormick Date	te F. Jamison	Date	E. R. Skinnarla	nd Date
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### Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Description of Modification:

Chapter 3.0, §3.3.1: remove and replace Chapter 3.0 with attached Chapter 3.0.

# Monitoring the Variability of Process Condensate

The Discharge Permit (Ecology 1995a, Section S5) requires sampling of PC in the LERF basins until sufficient data are collected, which adequately assess the variability of ammonia and total Kieldahl nitrogen (TKN), strontium 90, and iodine 129. The PC will be analyzed for these parameters to assess the range of concentrations present in the PC and the results reported to Ecology. In addition, the 10 highest concentrations of tentatively identified compounds (TICs) will be reported from each PC sampling event, as required by the discharge permit. Tentatively identified compounds are non-targeted organic compounds or fragments of compounds with unique chromatographic spectra that are qualitatively identified by comparing them to standard databases of spectra. Because these compounds are identified qualitatively, their concentration only can be estimated.

Reports have been submitted to Ecology that included the results of ammonia and TKN analysis, detections of strontium-90 and iodine-129, and the 10 highest TICs. The data in these reports suggested that there is very little variability in the PC.

Modification Class: 12	23		Class 1	Class 11	Class 2	Class 3
Please check one of the	ne Classes:		X			
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/Date

# Hanford Facility RCRA Permit Modification Notification Form

Unit

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

# Description of Modification:

Chapter 3.0, §3.4.2: remove and replace Chapter 3.0 with attached Chapter 3.0.

### 3.4.2 Analytical Rationale

As stated previously, each generator is responsible for designating and characterizing an aqueous waste stream. Accordingly, each generator samples and analyzes an influent waste stream using the target list of parameters (Table 3.3) for the waste acceptance process. At the discretion of the LERF and ETF management, a generator may provide process knowledge in lieu of some analyses as discussed in Section 3.2.1.1. The LERF and ETF personnel will work with the generator to determine which parameters are appropriate for the characterization.

The analytical methods for these parameters are provided in Section 3.10. All methods for nonradioactive parameters are EPA methods. Additional analyses may be required if historical information and process knowledge indicate that an influent aqueous waste contains constituents not included in the target list of parameters. For example, if process knowledge indicates that an aqueous waste contains a parameter that is regulated by the Groundwater Quality Criteria (WAC 173-200), that parameter(s) would be added to the suite of analyses required for that aqueous waste stream.

The analytical data for the parameters presented in Table 3.3, including VOC, SVOC, metals, anions, <u>and</u>-general chemistry parameters, and radionuclides mixed waste are used to define the physical and chemical properties of the aqueous waste to:

- Set operating conditions in the LERF and ETF (e.g., to determine operating configuration refer to Section 3.2.2.2)
- Identify concentrations of some constituents which may also interfere with, or foul ETF treatment process (e.g., fouling of the RO membranes refer to Section 3.2.2.2)
- Evaluate LERF liner and piping material compatibility
- Determine treatability to evaluate if applicable constituents in the treated effluent will meet Discharge Permit and Delisting limits
- Estimate concentrations of some constituents in the waste generated in the secondary treatment train (i.e., dry powder waste). Some analyses also are required to address special conditions (Section 3.3) or for other specific purposes as indicated below:
- Formate analysis is required for compliance with special conditions for PC (refer to Section 3.3.2).
- <u>Total Kjeldahl nitrogen (TKN) analysis</u> required under the Discharge Permit to meet special conditions for PC (until discharge permit is modified, refer to Section 3.3.1).
- Total dissolved solids analysis to predict volume of powder waste from the secondary treatment train.

<u>Radionuclide analyses</u> are used for inventorying radionuclides as necessary to demonstrate compliance with U.S. Department of <u>Energy Orders</u> (including DOE Orders 5480.5 and 5480.23) and monitoring for some radionuclides required for compliance with <u>Discharge Permit.</u>

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X		,	
Relevant WAC 173-303-830, Appendix I Modification:	A.1			
Enter wording of the modification from WAC 173-303-83  A. General Permit Provisions	0, Appendix I ci	tation _		
<ol> <li>Administrative and informational changes.</li> </ol>				

K (1) ilde

R. T. Wilde

F. Jamison

Date

住. R. Skinnarland

Date

¹ Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

I Init

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

# Description of Modification:

Chapter 3.0, §3.4.2: remove and replace Chapter 3.0 with attached Chapter 3.0.

# 3.4.2 Analytical Rationale

As stated previously, each generator is responsible for designating and characterizing an aqueous waste stream. Accordingly, each generator samples and analyzes an influent waste stream using the target list of parameters (Table 3.3) for the waste acceptance process. At the discretion of the LERF and ETF management, a generator may provide process knowledge in lieu of some analyses as discussed in Section 3.2.1.1. The LERF and ETF personnel will work with the generator to determine which parameters are appropriate for the characterization.

The analytical methods for these parameters are provided in Section 3.10. All methods for nonradioactive parameters are EPA methods. Additional analyses may be required if historical information and process knowledge indicate that an influent aqueous waste contains constituents not included in the target list of parameters. For example, if process knowledge indicates that an aqueous waste contains a parameter that is regulated by the Groundwater Quality Criteria (WAC 173-200), that parameter(s) would be added to the suite of analyses required for that aqueous waste stream.

The analytical data for the parameters presented in Table 3.3, including VOC, SVOC, metals, anions, and general chemistry parameters, and radionuclides mixed wasteare used to define the physical and chemical properties of the aqueous waste to:

- Set operating conditions in the LERF and ETF (e.g., to determine operating configuration refer to Section 3.2.2.2)
- Identify concentrations of some constituents which may also interfere with, or foul ETF treatment process (e.g., fouling of the RO membranes - refer to Section 3.2.2.2)
- Evaluate LERF liner and piping material compatibility
- Determine treatability to evaluate if applicable constituents in the treated effluent will meet Discharge Permit and Delisting limits
- Estimate concentrations of some constituents in the waste generated in the secondary treatment train (i.e., dry powder waste).

Some analyses also are required to address special conditions (Section 3.3) or for other specific purposes as indicated below:

- Formate analysis is required for compliance with special conditions for PC (refer to Section 3.3.2).
- Total Kjeldahl nitrogen (TKN) analysis required under the Discharge Permit to meet special conditions for PC (until discharge permit is modified, refer to Section 3.3.1).
- Total dissolved solids analysis to predict volume of powder waste from the secondary treatment train.

<u>Radionuclide analyses</u> are used for inventorying radionuclides as necessary to demonstrate compliance with U.S. Department of <u>Energy Orders</u> (including DOE Orders 5480.5 and 5480.23) and monitoring for some radionuclides required for compliance with <u>Discharge Permit.</u>

Modification C	lass: 123			Class 1	Class 11	Class 2	Class 3
Please check or	e of the Cla	usses:		X			
Relevant WAC	173-303-83	0, Appendix I Modifi	cation:	A.1.			
A. General Per	mit Provisi	ication from WAC 17 ons I informational change		, Appendix I ci	tation		
		M. S. McCormick		Reviewed b	- ortrafer	JAI . WON	is 2/25/04
R. T. Wilde	Date	M. S. McCormick	Date 12/8/03	F. Jamison	Date	E. R. Skinnarla	nd Da

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Unit

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

# Description of Modification:

Chapter 3.0, Table 3.3: remove and replace Chapter 3.0 with attached Chapter 3.0.

Table 3.3. Target Parameters for Influent Aqueous Waste Analyses.

•••	
TOTAL METALS	RADIONUCLIDES
Aluminum	Gross alpha
Antimony	Gross beta
Arsenic	Americium-241
Bariu <b>m</b>	Antimony-125
Beryllium	Carbon-14
Cadmium	Cerium/Praseodymium-144
Calcium	Cesium 134
Chromium	Cesium-137
Copper	Cobalt-60
Iron	Curium-244
Lead	Europium-154
Magnesium	Europium 155
Manganese	Gamma
Mercury	Iodine-129
Nickel	Neptunium 237
Potassium	Niobium-94
Selenium	Plutonium 238
Silicon	Plutonium 239/240
Silver	Radium-226
Sodium	Ruthenium 103
Uranium	Ruthenium 106
Vanadium	Strontium 90
Zinc	Technicium-99
	Tin 113
	Tritium
	Zinc-65

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
	<u> </u>			

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Eco

¹ Class 1 modifications requiring prior Agency approval.

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I Init

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

# Description of Modification:

Chapter 3.0, Table 3.4: remove and replace Chapter 3.0 with attached Chapter 3.0.

Table 3.4. Rationale for Parameters to Be Monitored in Treated Effluent.

	Final	Discharge Permit ²		
Parameter	Delisting ¹	Enforcement Limit	Early Warning Value	
•••				
OTH	ER ANALYSES			
Ammonia ⁴ (as N)	X		X	
Total Kjeldahl nitrogen (as N)			X	
Cyanide	X			
Tritium		·	M	
Strontium 90			M	
Gross alpha			M	
Gross beta			M	
Total dissolved solids			X	
Total organic carbon			X	
Total suspended solids			X	
Specific conductivity		M		

Parameters required by the current conditions of the Final Delisting, 40 CFR 261, Appendix IX, Table 2 (EPA 1995).

Parameters required by the current conditions of the State Waste Discharge Permit, No. ST 4500 (Ecology 1995a).

Metals reported as total concentrations.

Although the Final Delisting lists "ammonium" (NH₄⁺), the standard analytical methods measure ammonia (NH₃). Ammonia is assumed the contaminant of concern.

X Rationale for measuring this parameter in treated effluent.

M Monitor only; no limit defined.

Class ¹ 1	Class 2	Class 3
ation		
Ecology/	Reviewed by	2/25/0
•	- of the	- That LP Davis

¹ Class 1 modifications requiring prior Agency approval.

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# Page 15 of 42 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §3.6.1.1: remove and replace Chapter 3.0 with attached Chapter 3.0. 3.6.1.1 Rationale for Selection of Parameters for Analysis ETF secondary waste is anticipated to consist primarily of sulfate salts, and minor amounts of metalsandradionuclides mixed waste. The designation of ETF secondary waste is based on influent characterization data. These data are used to assign applicable listed waste numbers to the secondary waste and to determine if the secondary waste would designate as a characteristic waste because of toxic metals. Concentrations of metals in the secondary waste are projected by comparing the influent metals data to the removal efficiencies of ETF treatment process. When the influent data indicate that the secondary waste will not designate as a characteristic waste, the secondary waste, as slugry, sludge, or dry powder, is not sampled and analyzed for metals. The influent data, in conjunction with knowledge of ETF treatment processes, also are used to determine the LDR status of ETF secondary waste. Knowledge of the treatment process indicates that VOCs and SVOCs (i.e., listed waste constituents) are not expected in the secondary waste because of the organic destruction capability of the UV/OX and the temperatures of the thin film dryer. Accordingly, when the influent data indicate that the secondary waste meets the LDR treatment standards, the secondary waste, as slurry, sludge, or dry powder, is not sampled and analyzed for VOCs or SVOCs. The parameters for analysis of EYF secondary waste are provided in Table 3.5. The specific analytical methods for these analyses are provided in Section 3.10. Additionally, samples of slurry or sludge undergo a total solids analysis to convert the analytical data on other parameters to dry weight concentrations.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification:

A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co-Operator: Reviewed by RL Program Office:	Reviewed by Eco	logy:	Reviewed by Eco	ology:
R. T. Wilde Date M.S. McCornick Date	F. Jamison	Date	E. R. Skinnarland	Date

12/18/02

¹ Class 1 modifications requiring prior Agency approval.

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# Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Part III, Chapter 4 and Attachment 34 Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §3.6.1.3: remove and replace Chapter 3.0 with attached Chapter 3.0. 3.6.1.3 Sampling Frequency ETF secondary waste is sampled at a frequency of two containers per batch. A batch is defined as any volume of aqueous waste that is being treated under consistent and constant process conditions. The secondary waste will be resampled under the following changes in process conditions: Change in an influent source (e.g., change in well-head) Change in process chemistry. Up to a maximum of three representative samples will be collected from the concentrate tanks, if waste from the concentrate tanks is used for characterization of a batch of influent waste. These samples will be analyzed for the appropriate parameters identified in Table 3.5 based on the needs identified from evaluating influent sampling and analysis data. When personnel vadiological and/or chemical exposures are of concern, analytical results from concentrate tank samples will be used to represent the powder waste generated from the treatment of that aqueous waste(s). The dry powder or concentrate tanks will be re-sampled in the following situations: The LERF and ETF management have been notified, or have reason to believe that the process generating the waste has changed (for example, a source change such as a change in the well-head for groundwater that significantly changes the aqueous waste characterization). The LERF and ETF management note an increase or decrease in the concentration of a constituent in an aqueous waste stream, beyond the range of concentrations that was described or predicted in the waste characterization. Modification Class: 123 Class 11 Class 3 Class 2 Class 1 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and informational changes. Submitted by Co-Operator, Reviewed by RI Program Office: Reviewed by Ecology: Reviewed by Ecology: M. S. McCormick E. R. Skinnarland Date Ďate F. Jamison Date Date R. T. Wilde 12/18/03

¹ Class 1 modifications requiring prior Agency approval.

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# Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility

Description of Modification:

Modification Class: 123

Please check one of the Classes:

Chapter 3.0, §3.6.3: remove and replace Chapter 3.0 with attached Chapter 3.0.

# 3.6.3 Other Waste Generated at the 200 Area Effluent Treatment Facility

There are two other potential sources of waste at ETF: spills and/or overflows, and discarded chemical products. Spilled material that potentially might be dangerous waste generally is routed to ETF sumps where the material is transferred either to the surge tank for treatment or to the secondary treatment train. A spilled material also could be containerized and transferred to another TSD unit. In most cases, process knowledge and the use of MSDSs are sufficient to designate the waste material. If the source of the spilled material is unknown and the material cannot be routed to ETF sumps, a sample of the waste is collected and analyzed according to Table 3.5, as necessary, for appropriate characterization of the waste. Unknown wastes will be designated according to Washington State regulatory requirements. The specific analytical methods for these analyses are provided in Section 3.10.

A discarded chemical product waste stream could be generated if process chemicals, cleaning agents, or maintenance products become contaminated or are otherwise rendered unusable. In all cases, these materials are appropriately containerized and designated. Sampling is performed, as appropriate, to determine the radioactivity of a waste or if required for waste designation.

Relevant WAC 1	73-303-83	0, Appendix I Modific	eation:	A.1.		
A. General Perr	nit Provisi					
Submitted by Co- RT Wille R. T. Wilde	Operator:  D-12/5	Keviewed by Rt. Progra M. S. McCormick	m Office: ,	Reviewed by Ed	 Reviewed by Ec H. W. Waves CE. R. Skinnarland	ology: 2/25/04 Date
			14/803			

Class 1

 $\overline{\mathbf{X}}$ 

Class 11

Class 2

Class 3

¹Class 1 modifications requiring prior Agency approval.

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proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

#### Page 18 of 42 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 3.0, §Table 3.6: remove and replace Chapter 3.0 with attached Chapter 3.0. Table 3.6. Sample and Analysis Criteria for Influent Aqueous Waste and Treated Effluent RADIONUCLIDES Sample container 4 x 1-L glass Preservative HNO3 to NA Laboratory specific 3 pCi/L Gross-alpha pH < 2 Holding time 180 days NA 4 pCi/L Gross beta Laboratory specific NA Laboratory specific Gamma NA Americium 241 Laboratory specific NA NA NA Antimony-125 Laboratory specific NA NA Cerium 144 Laboratory specific NA NA Cesium 134 Laboratory specific NΑ Laboratory specific NA Cesium-137 NA Laboratory specifie Cobalt-60 Laboratory specific NΛ NA Curium 244 NA NA Laboratory specific Europium-154 NA NA Europium 155 Laboratory specific NA NA Neptunium-237 Laboratory specific NA NA Niobium-94 Laboratory specific Laboratory specific NA NA Plutonium 238 Plutonium 239/240 Laboratory specific NA NA NA NA Laboratory specific Radium-226 Laboratory specific NA Ruthenium-103 NA NΑ NA Ruthenium 106 Laboratory specific NA 5 pCi/L Laboratory specific Strontium-90 NA NA Laboratory specific Tin-113 NA NA Zinc-65 Laboratory specific Sample container 1 x 1 L glass Preservative No NΑ NA Carbon-14 Laboratory specific preservative added Holding time 180 days NA NA Iodine 129 Laboratory specific Technicium-99 NA NA Laboratory specific NA 460 pCi/L Tritium Laboratory-specific ^f-Methylene chloride is not analyzed for treated effluent sampling. ⁱ PQLs provided for those radionaclides, which are monitored as part of the Discharge Permit. pCi/L picocuries per liter. Modification Class: 123 Class 11 Class 3 Class 2 Class 1 Please check one of the Classes:

Relevant WAC 173-303-830, Appendix I Modification:

A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

M. S. McCormick

A. General Permit Provisions

R. T. Wilde

1. Administrative and informational changes.

Submitted by Co-Operator: Reviewed by RL Program Office:

Reviewed by Ecology:

F. Jamison

Date

Reviewed by Ecology:

E. R. Skinnarland

2/25/64 Date

14/8/83

Date

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Hanford Facility RCRA Per	rmit Modification Notification Form	
Unit:	Permit Part & Chapter:	
Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility	Part III, Chapter 4 and Attachment 34	
Description of Modification:	1	
Chapter 3.0, Figures: remove and replace Chapter 3.0	with attached Chapter 3.0.	-
Figures were marked OFFICAL USE ONLY.		
	A A	
Modification Class: 123	Class 1 Class ¹ 1 Class 2 Class	3
Please check one of the Classes:	X	
Relevant WAC 173-303-830, Appendix I Modificatio	on: A.1.	
Enter wording of the modification from WAC 173-30		
A. General Permit Provisions  1. Administrative and informational changes.		
Submitted by Co-Operator: Reviewed by RL Program O	Office: Reviewed by Ecology: Reviewed by Ecology:	
R. T. Wilde Date M. S. McCornick I	Date F. Jamison Date VE. R. Skinnarland D	25/04 Date
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# Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility

Description of Modification:

Chapter 4.0, §4.0: remove and replace Chapter 4.0 with attached Chapter 4.0.

### 4.0 PROCESS INFORMATION

This chapter provides a detailed discussion of the LERF and ETF processes and equipment. The LERF and ETF comprise an aqueous waste treatment system located in the 200 East Area that provides storage and treatment for a variety of aqueous radioactive and/or-mixed waste. This aqueous waste includes process condensate from the 242-A Evaporator and other aqueous waste generated from onsite remediation and waste management activities.

The LERF consists of three lined surface impoundments, or basins. Aqueous waste from LERF is pumped to the ETF for treatment in a series of process units, or systems, that remove or destroy essentially all of the dangerous waste and radioactive constituents except tritium. The treated effluent is discharged to a State-Approved Land Disposal Site (SALDS) north of the 200 West Area, under the authority of a Washington State Waste Discharge Permit (Ecology 1995a2000) and the Final Delisting (40 CFR 261, Appendix IX, Table 2).

					·				
Modification Cl	ass: 123			Class 1	Class 11	Class 2	Class 3		
Please check one of the Classes:				X					
Relevant WAC 173-303-830, Appendix I Modification: A.1.									
Enter wording of the modification from WAC 173-303-830, Appendix I citation  A. General Permit Provisions  1. Administrative and informational changes.									
Submitted by Co-	Operator.	Reviewed by RL Progr		Reviewed by	Ecology:	Reviewed by	/ Ecology:		
R. T. Wilde	Ďate	M. S. McCormick	Date	F. Jamison	Date	E. R. Skinnarlar	nd Date		
			14/1403	* .		•	-		

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# Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 4.0, §4.2.3: remove and replace Chapter 4.0 with attached Chapter 4.0. 4.2.3 Primary Treatment Train

The primary treatment train consists of the following processes:

- Influent Receipt/Surge tank inlet, surge capacity
- Filtration for suspended solids removal
- UV/OX organic destruction
- pH adjustment waste neutralization
- Hydrogen peroxide decomposition removal of excess hydrogen peroxide
- Degasification removal of carbon dioxide
- RO removal of dissolved solids and radionuclides
- IX removal of dissolved solids and radionuclides
- Verification holding tanks during verification.

Reverse Osmosis. The RO system (Figure 4.9) uses pressure to force clean water molecules through semi-permeable membranes while keeping the larger molecule contaminants, such as dissolved solids, radionuclides, and large molecular weight organic materials, in the membrane. The RO process uses a staged configuration to maximize water recovery. The process produces two separate streams, including a clean 'permeate' and a concentrate (or retentate), which are concentrated as much as possible to minimize the amount of secondary waste produced.

Modification Class: 123 Class 1 Class 11 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions 1. Administrative and informational changes. Reviewed by PA Program Office Submitted by Co-Operator: Reviewed by Ecology: Reviewed by Ecology:

F. Jamison

Date E. R. Skinnarland

Date 12/18/63

Date

M. S. McCormick

R. T. Wilde

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# Page 22 of 42 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 4.0, §4.2.4: remove and replace Chapter 4.0 with attached Chapter 4.0. 4.2.4 Secondary Treatment Train Container Handling. Before an empty container is moved into the Container Handling System (Figure 4.14), the lids are loosely placed on the containers and the container is placed on a conveyor. After the lid is removed, the containers are moved into the container filling area after passing through an air lock. The empty container is located under the thin film dryer, and raised into position. The container is sealed to the thin film dryer and a rotary valve begins the transfer of powder to the empty container. Air displaced from the container is vented to the entrainment separator attached to the ETF evaporator that exhausts to the vessel off gas system. The container is filled to a predetermined level, recapped, and moved along the conveyor to the smear station airlock. At the smear station airlock, the container is moved onto the conveyor by remote control. The airlock is opened and the smear sample (surface wipe) is taken and the radionuclide contamination level counted. A 'C' ring is installed to secure the container lid. If the container has contaminated material on the outside, the container is moved to the wash down station and washed. The container wash water drains to sump tank 1. The washed container is air-dried and retested. Filled containers that pass the smear test are labeled, placed on pallets, and moved by forklift to the filled container storage area. Section 4.3 provides a more detailed discussion of container handling. Modification Class: 123 Class 1 Class 1 Class 2 Class 3 X Please check one of the Classes: Relevant WAC 173-303-830, Appendix I Modification: A.1. Enter wording of the modification from WAC 173-303-830, Appendix I citation A. General Permit Provisions

¹ Class 1 modifications requiring prior Agency approval.

1. Administrative and informational changes.

Date

Reviewed by RL Program Office

M. S. McCormick

Submitted by Co-Operator:

R. T. Wilde

F. Jamison

Date

14/8/03

Reviewed by Ecology:

Date JE. R. Skinnarland

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# Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility

# Description of Modification:

Chapter 4.0, §4.2.5.2: remove and replace Chapter 4.0 with attached Chapter 4.0.

# 4.2.5.2 Vessel Off gas System

Ventilation for various tanks and vessels is provided through the vessel off gas system. The system includes a moisture separator, duct heater, pre-filter, high-efficiency particulate air filters, carbon absorber (when required to reduce organic emissions), exhaust fans, and ductwork. Gasses ventilated from the tanks and vessels enter the exhaust system through the connected ductwork. The vessel off gas system draws vapors and gasses off the following tanks and treatment systems:

- Surge tank
- ETF evaporator
- pH adjustment tank
- Concentrate tanks
- Degasification system
- · First and second RO stages
- Dry powder hopper
- Effluent pH adjustment tank
- Drum capping station
- Secondary waste receiving tanks
- Resin dewatering system
- Distillate condenser (off the thin film dryer)
- Sump tanks 1 and 2.

The vessel off gas system maintains a negative pressure with respect to the atmosphere, which produces a slight vacuum within tanks, vessels, and ancillary equipment for the containment of gas vapor. This system also provides for the collection, monitoring, and treatment of confined airborne in-vessel contaminants to preclude over-pressurization. The high-efficiency particulate air filters remove particulates and condensate from the air stream before these are discharged to the radiologically-controlled heating, ventilation, and air conditioning system.

					,		
Modification Class: 123				Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:				X			
Relevant WAC	173-303-8	30, Appendix I Modific	cation:	A.1.			
A. General Per	mit Provis	fication from WAC 17. ions l informational change	•	Appendix I cita	tion_		
Submitted by Co KT Wille R. T. Wilde	-Operator: <i>12 12 03 </i> Date	Reviewed by RL Progra M. S. McCormick	am Office: Date	Reviewed by F. Jamison	Trafa	Reviewed by  SP David  E. R. Skinnarland	2/25/09
			12/18/03				

¹ Class 1 modifications requiring prior Agency approval.

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³ If the proposed modification does not match any modification listed in WAC 173-303-830 Appendix I, then the proposed modification should automatically be given a Class 3 status. This status may be maintained by the Department of Ecology, or down graded to ¹1, if appropriate.

Permit Part & Chapter;

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 4.0, §4.4.1: remove and replace Chapter 4.0 with attached Chapter 4.0.

#### 4.4.1 **Design Requirements**

The following sections provide an overview of the design specifications for the tanks within the ETF. A separate discussion on the design of the process units also is provided. In accordance with the new tank system requirements of WAC 173-303-640(3), the following tank components and specifications were assessed:

- Dimensions, capacities, wall thicknesses, and pipe connections
- Materials of construction and linings and compatibility of materials with the waste being processed
- Materials of construction of foundations and structural supports
- Review of design codes and standards used in construction
- Review of structural design calculations, including seismic design basis
- Waste characteristics and the affects of waste on corrosion.

This assessment was documented in the Final RCRA Information Needs Report (Mausshardt 1995); the engineering assessment performed for the ETF tank systems by an independent professional engineer. A similar assessment of design requirements was performed for the load-in tanks and is documented in 200 Area Effluent BAT/AKART Implementation, ETF Truck Load-In Facility, Project W-291H Integrity Assessment Report (KEH 1994).

The specifications for the preparation, design, and construction of the tank systems at the ETF are documented in the Design Construction Specification, Project C-018H, 242-A Evaporator/PUREX Plant Process Condensate Treatment Facility (WHC 1992a). The preparation, design, and construction of the load-in tanks are provided in the construction specifications in Project W-291, 200 Area Effluent BAT/AKART Implementation ETF Truck Load-in Facility (KEH 1994).

Most of the tanks in the ETF are constructed of stainless steel. According to the design of the ETF, it was determined stainless steel would provide adequate corrosion protection for these tanks. Exceptions include the verification tanks, which are constructed of carbon steel with an epoxy coating. The ETF evaporator/vapor body (and the internal surfaces of the thin film dryer) is constructed of a corrosion resistant alloy, known as alloy 625, to address the specific corrosion concerns in the secondary treatment train. Finally, the hydrogen peroxide decomposer vessels are constructed of carbon steel and coated with a vinyl ester lining.

The shell thicknesses of the tanks identified in Section4.4.1.1 represent a nominal thickness of a new tank when placed into operation. The tank capacities identified in this table represent the maximum operating volumes. For certain tanks (as indicated in the table), the maximum operating volume is also the nominal (routine) operating capacity. Nominal tank volumes represent the volume between the low-level and high-level shutoffs in a tank unit.

Dangerous and/or mixed waste that can be treated or stored in the ETF tanks is presented in Attachment 34, Chapter 1.0. Aqueous waste, in addition to process condensate, that is treated and stored at the LERF and ETF includes, but is not limited to, the following: contaminated groundwater from pump and treat remediation activities such as groundwater from the 200 UP-1 Operable Unit; water from deactivation activities such as water from the spent fuel storage basins at deactivated reactors (e.g., N Reactor); laboratory aqueous waste from unused samples and sample analyses; and leachate from landfills, such as the Environmental Restoration Disposal Facility.

Before accepting a new aqueous waste stream at the LERF or ETF, an evaluation of the waste characteristics is performed to determine the treatability of the aqueous waste, including the potential to corrode the ETF tanks. This acceptance evaluation is discussed in the waste analysis plan Attachment 34, Chapter 3.0. If the evaluation indicates a new aqueous waste stream would significantly increase corrosion rates, processing actions are initiated to reduce corrosion. These actions might include blending the aqueous waste with other aqueous waste or adjusting the pH of the aqueous waste to reduce corrosion.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830,	Appendix I citation			

General Permit Provisions

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R. T. Wilde	Date	M. S. McCormick	Date	F. Jamison	Date (E. F	R. Skinnarland	Date

14/8/03

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Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 4.0, §4.4.4.1.2: remove and replace Chapter 4.0 with attached Chapter 4.0.

# 4.4.4.1.2 Specific Containment Systems

Process Area Secondary Containment. The process area contains the tanks and ancillary equipment of the primary and secondary treatment trains, and has a jointed, reinforced concrete slab floor. The concrete floor of the process area provides the secondary containment. This floor is a minimum of 15.2 centimeters thick. With doorsills 15.2 centimeter high, the process area has a containment volume of 76,200 liters. The largest tanks in the process area are the secondary waste receiving tanks, which each have a maximum capacity of 56,800 liters.

The floor of the process area is sloped to drain liquids to two trenches that drain to a sump. Each trench is approximately 38.1 centimeters wide with a sloped trough varying from 39.4 to 76.2 centimeters deep. Leaks into the secondary containment are detected by routine visual inspections of the floor area near the tanks, ancillary equipment, and in the trenches.

A small dam was placed in the trench that comes from the thin film dryer room to contain minor liquid spills originating in the dryer room to minimize the spread of radioactive contamination into the process area. The dryer room is inspected for leaks in accordance with the inspection schedule in Attachment 34, Chapter 6.0. Operators clean up these minor spills by removing the liquid waste and decontaminating the spill area.

A small dam was also placed in the trench adjacent to the chemical feed skid when the chemical berm area was expanded to accommodate acid and caustic pumps, which were moved indoors from the top of the surge tank to resolve a safety concern. This dam was designed to contain minor spills originating in the chemical berm area and prevent them from entering the process sump.

The northwest corner of the process area consists of a pump pit containing the pumps and piping for transferring treated effluent from the verification tanks to SALDS. The pit is built 1.37 meters below the process area floor level and is sloped to drain to a trench built along its north wall that routes liquid to sump tank 1. Leaks into the secondary containment of the pump pit are detected by routine visual inspections.

Modification Class: 12 3 Class 1 Class 1 Class 2 Class 3
Please check one of the Classes: X

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Eco

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# Hanford Facility RCRA Permit Modification Notification Form Unit: Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility

Description of Modification:

Chapter 4.0, §4.5.5.2: remove and replace Chapter 4.0 with attached Chapter 4.0.

#### 4.5.5.2 Leak Detection System

Single-point electronic leak detection elements are installed along the transfer line at 305-meter intervals. The leak detection elements are located in the bottom of specially designed test risers. Each sensor element employs a conductivity sensor, which is connected to a cable leading back to the 242-A Evaporator control room. If a leak develops in the carrier pipe, fluid will travel down the exterior surface of the carrier pipe or the interior of the containment pipe. As moisture contacts a sensor unit, the alarm sounds in the 242-A Evaporator ETF control room and the zone of the leak is indicated on the digital display. The pump located in the 242-A Evaporator is shut down, stopping the flow of aqueous waste through the transfer line. A low-volume air purge of the annulus between the carrier pipe and the containment pipe is provided to prevent condensation buildup and minimize false alarms by the leak detection elements.

The catch basins have conductivity leak detectors that alarm in the 242-A Evaporator control room. Leaks into the catch basins drain back to the basin through a 5.1-centimeter drain on the floor of the catch basin.

Modification Class: 123				Class 1	Class 11	Class 2	Class 3		
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Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 4.0, §4.6.1: remove and replace Chapter 4.0 with attached Chapter 4.0.

# 4.6.1 Applicability of Subpart AA Standards

The ETF evaporator and thin film dryer perform operations that specifically require evaluation for applicability of WAC 173-303-690. Aqueous waste in these units routinely contains greater than 10 parts per million concentrations of organic compounds and are, therefore, subject to air emission requirements under WAC 173-303-690. Organic emissions from all affected process vents on the Hanford Facility must be less than 1.4 kilograms per hour and 2.8 megagrams per year, or control devices must be installed to reduce organic emissions by 95 percent.

The vessel off gas system provides a process vent system. This system provides a slight vacuum on the ETF process vessels and tanks (refer to Section 4.2.5.2). Two vessel vent header pipes combine and enter the vessel off gas system filter unit consisting of a demister, electric heater, prefilter, high-efficiency particulate air filters, activated carbon absorber, and two exhaust fans (one fan in service while the other is backup). The vessel off gas system filter unit is located in the high-efficiency particulate air filter room west of the process area. The vessel off gas system exhaust discharges into the larger building ventilation system, with the exhaust fans and stack located outside and immediately west of the ETF. The exhaust stack discharge point is 15.5 meters above ground level.

The annual average flow rate for the ETF stack (which is the combined vessel off gas and building exhaust flow rates) is provided in Radionuclide Air Emissions Report for the Hanford Site—Calendar Year 1995 (DOE RL 1996) as 220 cubic meters per minute with a total annual flow of approximately 1.2 E+08 cubic meters. During waste processing, the airflow through just the vessel off gas system is about 23 standard cubic meters per minute.

Organic emissions occur during waste processing, which occurs less than 310 days each year (i.e., 85 percent operating efficiency). This operating efficiency represents the maximum annual operating time for the ETF, as shutdowns are required during the year for planned maintenance outages and for reconfiguring the ETF to accommodate different aqueous waste.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			

Relevant WAC 175-305-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes

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Unit:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 4.0, §4.6.3.2: remove and replace Chapter 4.0 with attached Chapter 4.0.

# 4.6.3.2 Demonstrating Compliance with Subpart CC for Containers

Container Level 1 and Level 2 standards are met at the ETF by managing all dangerous and/or mixed wastes in U.S. Department of Transportation containers [40 CFR 264.1086(f)]. Level 1 containers are those that store more than 0.1 cubic meters and less than or equal to 0.46 cubic meters. Level 2 containers are used to store more than 0.46 cubic meters of waste, which are in "light material service". Light material service is defined where a waste in the container has one or more organic constituents with a vapor pressure greater than 0.3 kilopascals at 20 C, and the total concentration of such constituents is greater than or equal to 20 percent by weight.

The monitoring requirements for Level 1 and Level 2 containers include a visual inspection when the container is received at the ETF and when the waste is initially placed in the container. Additionally, at least once every 12 months when stored onsite for 1 year or more, these containers must be inspected.

If compliant containers are not used at the ETF, alternate container management practices are used that comply with the Level 1 standards. Specifically, the Level 1 standards allow for a "container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container...or may be an integral part of the container structural design..." [40 CFR 264.1086(c)(1)(ii)]. An organic-vapor-suppressing barrier, such as foam, may also be used [40 CFR 264.1086(c)(1)(iii)]. Section 4.3 provides detail on container management practices at the ETF.

Container Level 3 standards apply when a container is used for the "treatment of a hazardous waste by a waste stabilization process" [40 CFR 264.1086(2)]. Because treatment in containers <u>using the stabilization process</u> is not provided at the ETF, these standards do not apply.

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				Page 29 of 42
Hanford Facility RCRA Permit	Modification		· · · · · · · · · · · · · · · · · · ·	
Unit:			& Chapter:	
Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility	Pa	rt III, Chapter 4	and Attachmen	t 34
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A. General Permit Provisions				
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# Page 30 of 42 **Hanford Facility RCRA Permit Modification Notification Form** Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 6.0, §6.1, and 6.1.1.1: remove and replace Chapter 6.0 with attached Chapter 6.0. SECURITY [F-1] The following sections describe the security measures, equipment, and warning signs used to control entry to LERF and ETF. Hanford Facility security measures are discussed in Attachment 33, § 6.1, General Information Portion (DOE/RL-91-28). 6.1.1.1 24-Hour Surveillance System The entire Hanford Facility is a controlled-access area. For surveillance information, refer to Attachment 33, § 6.1, General Information Portion (DOE/RL-91-28).

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Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

Administrative and informational changes.

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1 Init:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 6.0, §6.1.1.2: remove and replace Chapter 6.0 with attached Chapter 6.0.

# 6.1.1.2 Barrier and Means to Control Entry

The LERF and ETF are protected by the 200 East Area fence. Visitors are required to be escorted. The LERF is surrounded by a separate 2.1-meter chain link fence topped with three strands of barbed wire extended outward at a 45 angle (referred to as the operational security fence). Access to the LERF is gained through two locked vehicleular gates off the perimeter road. Gate keys are retained at the 242 A Evaporator and ETF shift offices.

Persons desiring entry to ETF process area must notify the control room. These persons also must have the appropriate unit-specific training, Attachment 34, Chapter 8.0. The ETF personnel monitor all persons entering ETF and notify the Hanford Patrol of any attempted unauthorized entry. Immediate response by protective force personnel maintains the necessary security at the LERF and ETF.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
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Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

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# Page 31 of 42 **Hanford Facility RCRA Permit Modification Notification Form** Permit Part & Chapter: Liquid Effluent Retention Facility & Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 6.0, §6.1.1.2: remove and replace Chapter 6.0 with attached Chapter 6.0. 6.1.1.2 Barrier and Means to Control Entry The LERF and ETF are protected by the 200 East Area fence. Visitors are required to be escorted. The LERF is surrounded by a separate 2.1-meter chain link fence topped with three strands of barbed wire extended outward at a 45 angle (referred to as the operational security fence). Access to the LERF is gained through two locked vehicular gates off the perimeter road. Gate keys are retained at the 242-A Evaporator and ETF shift offices. Persons desiring entry to ETF process area must notify the control room. These persons also must have the appropriate unit-specific training, Attachment 34, Chapter 8.0. The ETF personnel monitor all persons entering ETF and notify the Hanford Patrol of any attempted unauthorized entry. Immediate response by protective force personnel maintains the necessary security at the LERF and ETF.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

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Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co-Operator:	Reviewed by RL Progr	am Office:	Reviewed by Ed	ology.	Reviewed by Eco	ology: 2/25/04
R. T. Wilde Date	M. S. McCormick	Date	F. Jamison	Date	É. R. Skinnarland	Date

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Unit

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 7.0, §7.3.2.4: remove and replace Chapter 7.0 with attached Chapter 7.0.

# 7.3.2.4 Fire and/or Explosion

In the event, of a fire, the discoverer activates a fire alarm; calls 911 (373-3800 if using a cellular phone) or verifies that 911 have been called. Automatic initiation of a fire alarm (through the smoke detectors, sprinkler systems, and pull boxes) is also possible.

- Unless otherwise instructed, personnel shall evacuate the area/building by the nearest safe exit and proceed to the
  designated staging area for accountability.
- On actuation of the fire alarm, ONLY if time permits, personnel should shut down equipment, secure waste, and lock up classified materials (or hand carry them out). The alarm automatically signals the Hanford Fire Department.
- The BED proceeds directly to the ICP, obtains all necessary information pertaining to the incident and sends a representative to meet Hanford Fire Department.
- The BED provides a formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, and mixed waste, or radioactive material quantities released to the environment).
- If operations are stopped in response to the fire, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation and ruptures.
- Hanford Fire Department firefighters extinguish the fire as necessary.

NOTE: Following a fire and/or explosion, WAC 173-303-640(7) will be addressed for the ETF regarding fitness for use.

Modification Class: 123			Class 1	Class 11	Class 2	Class 3			
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Unit:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Permit Part & Chapter:
Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 7.0, §7.3.2.5: remove and replace Chapter 7.0 with attached Chapter 7.0.

# 7.3.2.5 Hazardous Material, Dangerous and/or Mixed Waste Spill

Spills can result from many sources including process leaks, container spills or leaks, damaged packages or shipments, or personnel error. Spills of mixed waste are complicated by the need to deal with the extra hazards posed by the presence of radioactive AEA materials.

- The discoverer notifies BED and initiates SWIMS response:
  - Stops work
  - Warns others in the vicinity
  - Isolates the area
  - Minimizes the spill if possible
  - Requests the BED Secure ventilation.
- The BED determines if emergency conditions exist requiring response from the Hanford Fire Department based on classification of the spill and injured personnel, and evaluates need to perform additional protective actions.
- If the Hanford Fire Department resources are not needed, the spill is mitigated with resources identified in Section 9.0 of this plan and proper notifications are made.
- If the Hanford Fire Department resources are needed, the BED calls 911 (373-3800 if using a cellular phone).
- The BED sends a representative to meet the Hanford Fire Department.
- The BED provides a formal turnover to the IC when the IC arrives at the ICP.
- The BED informs the Hanford Site Emergency Response Organization as to the extent of the emergency (including estimates of dangerous waste, and mixed waste, or radioactive material quantities released to the environment).
- If operations are stopped in response to the spill, the BED ensures that systems are monitored for leaks, pressure buildup, gas generation, and ruptures.
- Hanford Fire Department stabilizes the spill.

NOTE: For response to leaks or spills and disposition of leaking or unfit-for-use tank systems, refer to WAC 173-303-640(7).

Modification Class: 123			Class 1	Class 11	Class 2	Class 3
Please check one of the Class	ses:		X			
Relevant WAC 173-303-830	, Appendix I Modific	cation:	A.1.			
Enter wording of the modific  A. General Permit Provision  1. Administrative and in	18		Appendix I ci	tation		
Submitted by Co-Operator: R	eviewed by RL Progra	ım Office:	Reviewed by	y Ecology:	Reviewed by	Ecology:
R. T. Wilde Date M	M. S. McCormick	Date	F. Jamison	Date	E. R. Skinnarlan	d Date

12/18/03

¹Class 1 modifications requiring prior Agency approval.

² This is only an advanced notification of an intended Class ¹1, 2, or 3 modification, this should be followed with a formal modification request, and consequently implement the required Public Involvement processes when required.

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Unit:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 7.0, §7.4.3: remove and replace Chapter 7.0 with attached Chapter 7.0.

# 7.4.3 Communications Equipment/Warning Systems

TYPE Fire alarms	LOCATION  Corridors, locker rooms, process area,	CAPABILITY Audible throughout ETF
(ETF only)	drum storage, and truck bay	Audible throughout E1F
Take cover/evacuation	Site Emergency Alarm System	Audible outside buildings and inside administrative buildings
Public address system (ETF Only)	Throughout the ETF	Audible throughout ETF
Portable radios	Operations and maintenance personnel	Communication to control room
Telephone	ETF – control room, 2025E,	Internal and external communications.
•	2025EA offices, MO-269, 2025EC71.	Allows notification of outside resources
		(POC, HFD, Hanford Patrol, etc.)
•	LERF – MO-727 and	
	242AL71 instrument building	
•	LERF Garage 242AL11	
	TEDF – 225E(pump house 1),	
	225W (pump house 2),	
	6653 (sample building),	
	6653A (pump house 3)	
Crash alarms (ETF only)	Control room, 2025EA Rm 101	Audible in ETF control room
Area Radiation Monitors,	Evaporator skid and drum loadout area	Equipment only activated during
Continuous Air Monitors		campaigns for potentially ALARA
	,	concerns higher radiological campaigns

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			
Enter wording of the modification from WAC 173-303-830  A. General Permit Provisions  1. Administrative and informational changes.	), Appendix I cit	tation		
Submitted by Co-Operator: Reviewed by RL Program Office: KT Wille   Date   M. S. McCormick   Date	Reviewed by F. Jamison	- 27/04	Reviewed by  - H Dan  E. R. Skinnarland	· 2/25/09
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¹Class 1 modifications requiring prior Agency approval.

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# Page 35 of 42 Hanford Facility RCRA Permit Modification Notification Form Permit Part & Chapter: **Liquid Effluent Retention Facility &** Part III, Chapter 4 and Attachment 34 200 Area Effluent Treatment Facility Description of Modification: Chapter 7.0, §7.4.4: remove and replace Chapter 7.0 with attached Chapter 7.0. **Personal Protective Equipment** Breathable air for initial response to emergency, 4-2025E Rm 116 Self contained breathing and recovery activities when required for apparatus (SCBA) radiological protection. 3 each included in the spill Chemical protection for personnel during Acid suits containment and isolation. response cabinets in 2025E 2025E Rm 107A Filtered air for recovery of known hazards. Respirators

Modification Class: 123 Class 1 Class 1 Class 2 Class 3
Please check one of the Classes: X

Relevant WAC 173-303-830, Appendix I Modification: A.1.

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

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KTWilde	12/03	<u> </u>					:
R. T. Wilde	Date	M. S. McCormick	Date	F. Jamison	Date	E. R. Skinnarland	Date

12/18/03

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Unit:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Modification Class: 123

Chapter 11.0, §11.2.4: remove and replace Chapter 11.0 with attached Chapter 11.0.

### 11.2.4 Closure Standards for Underlying Soils

The LERF retention basins have a leachate collection system for leaks or spills that channels the liquid to drains or sumps. The collected liquid is pumped back into the basins, thereby preventing spills from reaching the soil. The soil only could be contaminated if the secondary liner had failed. To determine if failure occurred, the primary liner will be inspected for leaks, holes, or punctures and the drainage gravel and bentonite carpet liner underneath the primary liner will be sampled and analyzed for contamination. If the drainage gravel analytical results determine that the constituents of concern are at or below agreed to regulatory cleanup levels (i.e., Hanford Site soil background levels (DOE-RL 1993) and/or residential exposure assumptions according to the Model Toxics Control Act), the gravel will be considered clean for closure. Only if contamination is found in the drainage gravel/bentonite carpet liner will the secondary liner surfaces be inspected for leaks. holes, or punctures, which (if existing) could have provided a pathway to soil for contamination (refer to Chapter 4.0, Figure 4-3 for basin diagram). If no leaks, holes, or punctures are found in the primary liner or if the drainage gravel/bentonite carpet liner is found not to be contaminated, the soil will be considered to be clean closed. However, if leaks, holes, or punctures are found in the primary liner or the gravel is contaminated, the secondary liner surfaces will be inspected. If no leaks, holes, or punctures are found in the secondary liner surfaces, the soil will be considered clean closed. If such leaks, holes, or punctures are identified, potential soil contamination will be investigated. Soil will be sampled and analyzed for constituents of concerns. If the soil analytical results determine that the constituents of concern are at or below agreed to regulatory cleanup levels, the soil will be considered clean closed.

Clean closure of soil under the ETF will be accomplished by demonstrating that the coated concrete floor kept contaminants from reaching the soil. The coated concrete floor provided secondary containment for all the tanks and process piping. Unless inspections identify potential through-thickness cracks indicating containment failure and a subsequent potential for soil contamination from TSD unit operations, the soil will be considered clean closed. However, if inspections identify such cracks and there have been documented spills in the vicinity, potential soil contamination will be investigated. Soils will be sampled and analyzed for constituents of concern. If the soil analytical results determine that the constituents of concern are at or below agreed to regulatory clean up levels, the soil will be considered clean closed. Regulatory cleanup levels are defined by the Hanford Facility RCRA Permit (Condition II.K.). If verification sampling is required, a sampling analysis plan will be prepared before closure in a manner consistent with Ecology guidance (Ecology 1994a) for achievement of clean closure.

Please check one of		asses:		X	Class 1	Class 2	Class 3
Relevant WAC 173	-303-83	30, Appendix I Modific	ation:	A.1.		<u> </u>	
A. General Permit	Provisi	fication from WAC 173 ons I informational changes		Appendix I cit	ation		
Submitted by Co-Ope	rater!	Reviewed by RL Progra	m Office:	Reviewed by	Ecology:	Reviewed by	Ecology:
R. T. Wilde	Date	M. S. McCormick	Date	F. Jamison	Date	E. R. Skinnarlane	1 Date

12/18/03

¹Class 1 modifications requiring prior Agency approval.

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Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility Part III, Chapter 4 and Attachment 34

**Description of Modification:** 

Chapter 11.0, §11.3.4.1: remove and replace Chapter 11.0 with attached Chapter 11.0.

#### 11.3.4.1 Covers and Liners

After all pumpable waste has been removed from a given basin at LERF, the cover for that basin will be removed. The cover either will be decontaminated or disposed of appropriately. If the cover is disposed of the cover will be cut up within the basin and loaded into a lined dump truck for transport and disposal. If the covers are to be reused, an initial decontamination effort will be made by spraying the underside of the cover while in place over a basin. The intent of preremoval spraying is to minimize subsequent decontamination efforts and to use the basin as a wash water catchment. Each cover will be inspected visually for physical damage in the same manner as the primary liners. Visible signs of damage to the cover will be repaired as specified by the cover manufacturer. The cover decontamination procedure will be to position a cover into its basin and wash the cover. Any openings, such as for vents, will be sealed temporarily so that rinsate cannot seep through. The method and degree of washing will be the same as necessary for the respective basin liner. The generated rinsate will be transferred from the basin to the ETF or appropriate TSD unit.

The primary liner will be inspected visually for physical damage and surveyed radiologically before any decontamination efforts. Physical damage will be defined as tears, holes, or punctures such that the liner would not hold water. A description and location of any physical damage found will be noted in a inspection record. Visible signs of damage to the liner will be repaired per procedures specified by the manufacturer before decontamination to prevent liquid solutions from driving potential contamination down into the drainage gravel. The purpose of the inspection will be twofold: to identify and map any physical damage in the primary liner that might have allowed contaminants a pathway to the drainage gravel below; and to identify areas that potentially are contaminated with dangerous waste or dangerous waste residues. The inspection standard for the liner will be a clean debris surface as defined in Section 11.1.1.1. The inspection of the liner for a clean debris surface will be documented on an inspection/record. Those areas already meeting the standard can be clean closed as is, based on Ecology acceptance of the completed record.

Those potentially contaminated areas will undergo decontamination to meet the clean closure standard of a clean debris surface. Plastic surfaces indicated by visual examination as being potentially contaminated will be decontaminated through use of physical extraction technologies such as high-pressure steam and water sprays coupled with a detergent wash.

Achievement of a clean debris surface will be documented on an inspection record. Decontamination rinsate will be transferred directly to the ETF or transferred to another basin before ultimate disposal. If it is not possible to meet the clean closure performance standard, or there is no further need for the liner, the primary liner could be removed, designated, and disposed of accordingly. The inspections for a clean debris surface will be documented on an inspection record.

Modification Class: 12 3	lass 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co	-Operator:	Reviewed by RL Prog	ram Office:	Reviewed by Eco	ology:/	Reviewed by Ec	ology:
KTWilde	12/12/03			1432	OUTH	AMP Days	2/25/04
R. T. Wilde	Date	M. S. McCormick	Date	F. Jamison	Date	E. R. Skinnarland	Date
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I Init

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 11.0, §11.3.4.3: remove and replace Chapter 11.0 with attached Chapter 11.0.

#### 11.3.4.3 Tanks

After all pumpable waste has been removed from the tanks at ETF, the interior of the tanks, including the internal components such as the agitator, will be washed down by adding or spraying with steam, a water-soluble cleaner, or other approved method. The tanks will be emptied and the interiors visually examined.

After rinsing, the tanks will be inspected visually for compliance with the performance standard. Because of possible radiation exposure, vVisual inspection might be made remotely using a camera or other device that allows verification of meeting the standard. If any areas are found to not meet the clean debris surface performance standard, these areas will be decontaminated in-place. Per the debris rule, only removal of contaminants from the surface layer is necessary for metal surfaces. Contamination will be removed from the surface layer using either high-pressure water blasting (a physical extraction method) or by hand or remote wiping, washing, brushing, or scrubbing using an approved cleaner, and rinsing with water or by other appropriate methods.

The outside of the tanks also will be inspected for compliance to the performance standard. Any areas found to not meet this performance standard will be decontaminated in-place. Contamination will be removed from the surface layer using any of the methods described for internal tank decontamination or another appropriate method. Before using decontamination solutions on the outside of the tanks, the floor will be inspected for cracks or other openings that could provide a pathway to soil. This inspection will be performed as described in Section 11.1.4.6 in conjunction with mapping of potential through-thickness cracks. Any such cracks will be mapped. The cracks will be sealed before beginning treatment or other engineered containment devices (e.g., portable catch basins, liners) will be used to collect and contain solutions.

Decontamination residues will be collected, designated, and managed as appropriate. If it is not possible to meet the clean closure performance standard, contaminated portions of the tanks could be removed, designated, and disposed of accordingly. The inspections for a clean debris surface will be documented on an inspection record.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			
Relevant WAC 173-303-830, Appendix I Modification:	A.1.			

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

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				12/18/17		• •	<del>V</del>	

¹Class 1 modifications requiring prior Agency approval.

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Linit

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

Description of Modification:

Chapter 11.0, §11.3.4.5: remove and replace Chapter 11.0 with attached Chapter 11.0.

#### 11.3.4.5 Concrete

At LERF, the concrete catch basins are located at the northeast corner of each retention basin, where inlet pipes, leachate risers, and transfer pipe risers emerge for the basin. The concrete catch basin is curbed, and coated with a chemical resistant epoxy scalant. The concrete catch basin is sloped so that any leaks or spills from the piping or connections will drain into the basin. At the ETF, the coated concrete floor and berm provides secondary containment for all the tanks and process piping.

At LERF and ETF, all concrete will be inspected visually and surveyed radiologically before any decontamination. The purpose of the inspection will be twofold: to identify and map any cracks in the concrete that might have allowed contaminants a pathway to the soil below (Section 11.1.2.3.); and to identify areas that potentially are contaminated with dangerous waste or dangerous waste residues. The inspection standard will be a clean debris surface as defined in Section 11.1.1. The inspection of the concrete for a clean debris surface will be documented on an inspection record. Those areas already meeting the standard can be clean closed as is.

Those potentially contaminated areas will undergo decontamination to meet the clean closure standard of a clean debris surface. The concrete will be washed down, the rinsate collected, designated, and disposed of accordingly. The concrete will be reinspected for a clean debris surface. Concrete surfaces indicated by visual examination as still being potentially contaminated will have the surface layer removed to a depth of 0.6 centimeter by scabbling or other approved methods. This will not threaten the environment, even if potential through-thickness cracks had been found during the inspection, because concrete decontamination (scabbling) will not employ liquid solutions that could enter cracks and because scabbling residues will be vacuumed away from cracks as any residue is generated.

Achievement of a clean debris surface will be documented on an inspection record. Decontamination residues will be collected, designated, and managed as appropriate.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

A.1.

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

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¹Class 1 modifications requiring prior Agency approval.

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Linit:

Permit Part & Chapter:

Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility

Part III, Chapter 4 and Attachment 34

# Description of Modification:

Chapter 11.0, §11.3.4.6: remove and replace Chapter 11.0 with attached Chapter 11.0.

#### **11.3.4.6** Structures

If contaminated with either dangerous or mixed waste constituents, the ETF structures will be decontaminated and/or disassembled, if necessary, packaged, and disposed of in accordance with existing land disposal restrictions (WAC 173-303-140).

Closure steps could include the following activities.

- Containerize (as necessary and practicable) and remove any remaining waste.
- Review operating records for spillage incidents and visually inspect storage area surfaces for evidence of
  contamination or for cracks that could harbor contamination or allow the escape of decontamination solutions.
  Inspect storage area surfaces for visible evidence of contamination (e.g., discoloration, material degradation,
  wetness, odor). If contamination is evident, the affected area(s) will be decontaminated.
- Decontaminate ETF walls and floors to minimize the potential for loose contamination and facilitate any required radiation surveys and/or chemical field screening. The structures could be cleaned by water rinse or high-pressure, low-volume steam cleaning coupled with a detergent wash. After decontamination, the walls and floors will be compared to closure performance standards.
- · Collect rinsate and manage as dangerous waste for appropriate disposal.
- Secure (lock) personnel entries into building and post doors with appropriate warning signs.

Clean closure of structures will occur in accordance with WAC 173-303-610. Remediation of soil contamination beneath or around containment buildings will be performed in conjunction with soil closure requirements.

Modification Class: 123	Class 1	Class 11	Class 2	Class 3
Please check one of the Classes:	X			

A.1.

Relevant WAC 173-303-830, Appendix I Modification:

Enter wording of the modification from WAC 173-303-830, Appendix I citation

A. General Permit Provisions

1. Administrative and informational changes.

Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Eco

14/8/03

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Hanford Facility RCRA Pern	nit Modification Notification Form					
Unit: Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility	Permit Part & Chapter: Part III, Chapter 4 and Attachm					
Description of Modification:						
Chapter 12.0: Remove Chapter 12.0 and replace with Po	ermit Condition III.4.B.2					
II.4.B.2. Permittees must comply with all applicable portions of the RCRA Permit for the Hanford Facility. The facility and unit-specific recordkeeping requirements are distinguished in the RCRA Permit, Attachment 33, General						
Information Portion, Table 12.1 (DOE/RL-91-2	8) and are tied to the associated Sitewide RCRA	Permit conditions.				
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Modification Class: 123	Class 1 Class 1 Class 2	Class 3				
Please check one of the Classes:	X					
Relevant WAC 173-303-830, Appendix I Modification:	A.1.					
Enter wording of the modification from WAC 173-303-	330, Appendix I citation					
A. General Permit Provisions     1. Administrative and informational changes.						
Submitted by Co-Operator/ Reviewed by RL Program Offi	ce: Reviewed by Ecology: Reviewe	ed by Ecology:				
R. T. Wilde Date M. S. McCormick Date	e F. Jamison Date E. R. Skinna	arland Date				
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Hanford Facility RCRA Permit Modification Notification Form							
Unit:	Permit Part & Chapter:						
Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility	Part III, Char	ter 4 and Attachment	34				
Description of Modification:							
Chapter 13.0: Remove Chapter 13.0.	fo .						
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Submitted by Co-Operator: Reviewed by RL Program Office: Reviewed by Ecology: Reviewed by Ecology: Reviewed by Ecology:							
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